The Park @ Live Oak

AIR QUALITY IMPACT ANALYSIS

CITY OF IRWINDALE

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg/m3	Microgram per Cubic Meter
AADT	Annual Average Daily Trips
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BACMs	Best Available Control Measures
BMPs	Best Management Practices
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DPM	Diesel Particulate Matter
EPA	Environmental Protection Agency
LST	Localized Significance Threshold
MMs	Mitigation Measures
NAAQS	National Ambient Air Quality Standards
NO2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
Pb	Lead
PM10	Particulate Matter 10 microns in diameter or less
PM2.5	Particulate Matter 2.5 microns in diameter or less
PPM	Parts Per Million
Project	The Park @ Live Oak
ROG	Reactive Organic Gases
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SIPs	State Implementation Plans
SRA	Source Receptor Area

TAC	Toxic Air Contaminant
TIA	Traffic Impact Analysis
TOG	Total Organic Gases
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

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EXECUTIVE SUMMARY

CONSTRUCTION-SOURCE EMISSIONS

REGIONAL IMPACTS

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutants. Therefore, a less than significant impact would occur for Project-related construction-source emissions.

LOCALIZED IMPACTS

For localized emissions, the Project would not exceed the SCAQMD's localized significance threshold for any criteria pollutant. Therefore, a less than significant impact would occur.

ODORS

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

OPERATIONAL-SOURCE EMISSIONS

REGIONAL IMPACTS

For regional emissions, operation of the Project would exceed the threshold of significance for emissions of both VOCs and NO_x. It is important to note that the majority of VOC emissions are derived from consumer products. For analytical purposes, consumer products include cleaning supplies, aerosols, and other industrial consumer products (1). As such, the Project cannot meaningfully control consumer products via mitigation thus, VOC emissions are considered significant and unavoidable as no feasible mitigation measure exists that would reduce this impact to less than significant levels. Additionally, over 92 percent of the Project's NO_x emissions are derived from vehicle usage. Since the Project does not have regulatory authority to control tailpipe emissions, no feasible mitigation measures exist that would reduce NO_x emissions to levels that are less-than-significant, thus these emissions are considered significant and unavoidable.

LOCALIZED IMPACTS

For localized emissions, the Project would not exceed the numerical thresholds established by the SCAQMD for any criteria pollutants. The proposed Project would not result in a significant CO "hotspot" as a result of Project related traffic during ongoing operations.

Project operational-source emissions would have the potential to conflict with the applicable AQMP.

ODORS

Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances (2). Consistent with City requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant.

1 INTRODUCTION

This report presents the results of the air quality impact analysis (AQIA) prepared by Urban Crossroads, Inc., for the proposed The Park @ Live Oak ("Project"). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the proposed Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the South Coast Air Quality Management District (SCAQMD).

1.1 SITE LOCATION

The proposed The Park @ Live Oak Project is located west of the Interstate 605 (I-605) freeway between Arrow Highway and Live Oak Avenue in the City of Irwindale, as shown on Exhibit 1-A. I-605 is located immediately east of the Project site, and El Monte Airport is located roughly 2.8 miles southwest of the Project site. Existing land uses in the Project study area include quarry and industrial uses north, east, and west of the Project site, and the Irwindale Event Center to the south across Live Oak Avenue.

1.2 PROJECT DESCRIPTION

The Project Applicant is proposing the entitlement of a Specific Plan for the Project site. The proposed Specific Plan identifies allowable uses for each Planning Area (PA), specifies the maximum square footage of building space permitted, and sets forth development standards and guidelines that will be required to be followed when development is implemented. For purposes of this AQIA, the analysis has assumed the following mix of land uses based on (i) the allowable uses and intensities identified in the Specific Plan and (ii) a conservative assessment of potential market absorption:

- PA 1: 412,500 square feet High-Cube Fulfillment Center Warehouse[1]
- PA 1: 412,500 square feet of High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage)
- PA 1A: 8,700 square feet of Fast Food Restaurant with Drive-through Window
- PA 1A: 12,000 square feet of Fast Food Restaurant without Drive-through Window
- PA 1A: 12,000 square feet of Commercial Retail use
- PA 1A: 8 vehicle fueling position Gas Station with Convenience Market
- PA 2: 218,400 square feet of High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage)
- PA 2: 54,600 square feet of General Light Industrial
- PA 2: 60,000 square feet of Warehousing
- PA 3: 102,000 square feet of Manufacturing
- PA 3: 191,400 square feet of Warehousing

[1] It should be noted that up to 387,500 square feet of High-Cube Warehouse (With Cold Storage) may be developed in lieu of 387,500 square feet of High-Cube Fulfillment Center Warehouse use or a combination of High-Cube Fulfillment Center Warehouse, Warehousing, and/or Manufacturing uses. Please refer to Appendix 3.1 for a more detailed explanation on how Project land uses have been analyzed in the air quality modeling.

- PA 3A: 3,000 square feet of Coffee-shop with Drive-Through Window
- PA 3A: 7,000 square feet of Fast Food Restaurant without Drive-through Window
- PA 3A: 10,500 square feet of Commercial Retail use
- PA 4: 47,000 square feet of Commercial Retail use

The Specific Plan's land use plan showing the various planning areas is shown on Exhibit 1-B. The anticipated Opening Year for the Project is 2020.

Per *The Park @ Live Oak Traffic Impact Analysis* prepared by Urban Crossroads, Inc. the Project is expected to generate a net total of approximately 14,607 trip-ends per day (actual vehicles). (3) The Project trip generation includes 808 truck trip-ends per day from the proposed Project site. This air quality study relies on the Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network.

1.3 PROJECT DESIGN FEATURES

The Project incorporates and expresses the following design features and attributes promoting energy efficiency and sustainability. Because these features/attributes are integral to the Project, they are not considered to be mitigation measures.

- All on-site *outdoor* cargo handling equipment (CHE) (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) will be powered by diesel fueled engines that comply with the California Air Resources Board (CARB)/U.S. EPA Tier IV Engine standards for off-road vehicles or better (defined as less than or equal to 0.015 g/bhp-hr for PM_{10}).
- All on-site *indoor* forklifts will be powered by electricity.

1.4 CONSTRUCTION-SOURCE AIR POLLUTANT EMISSIONS MITIGATION MEASURES

1.4.1 MONITORING OF AND COMPLIANCE WITH STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES (BACMS)

The SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 1113 (Architectural Coatings) (4); Rule 431.2 (Low Sulfur Fuel) (5); Rule 403 (Fugitive Dust) (6); Rule 402 (Nuisance) (7) and Rule 1186 / 1186.1 (Street Sweepers) (8) (9).

BACM AQ-1

- The following measures shall be incorporated into Project plans and specifications as implementation of Rule 403.
- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered, with complete coverage of disturbed areas, at least three (3) times daily during dry weather; preferably in the mid-morning, afternoon, and after work is done for the day.

EXHIBIT 1-A: LOCATION MAP

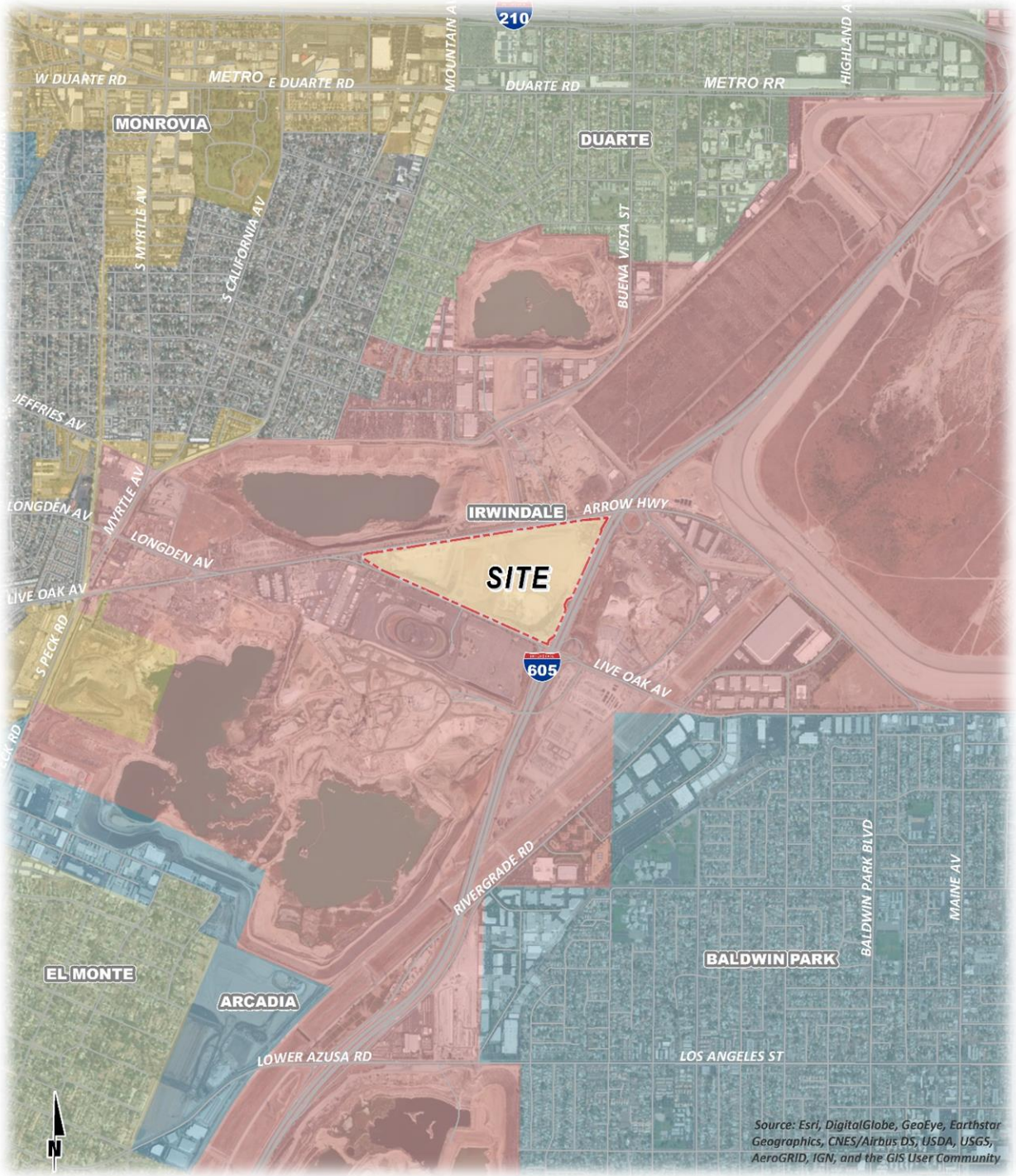
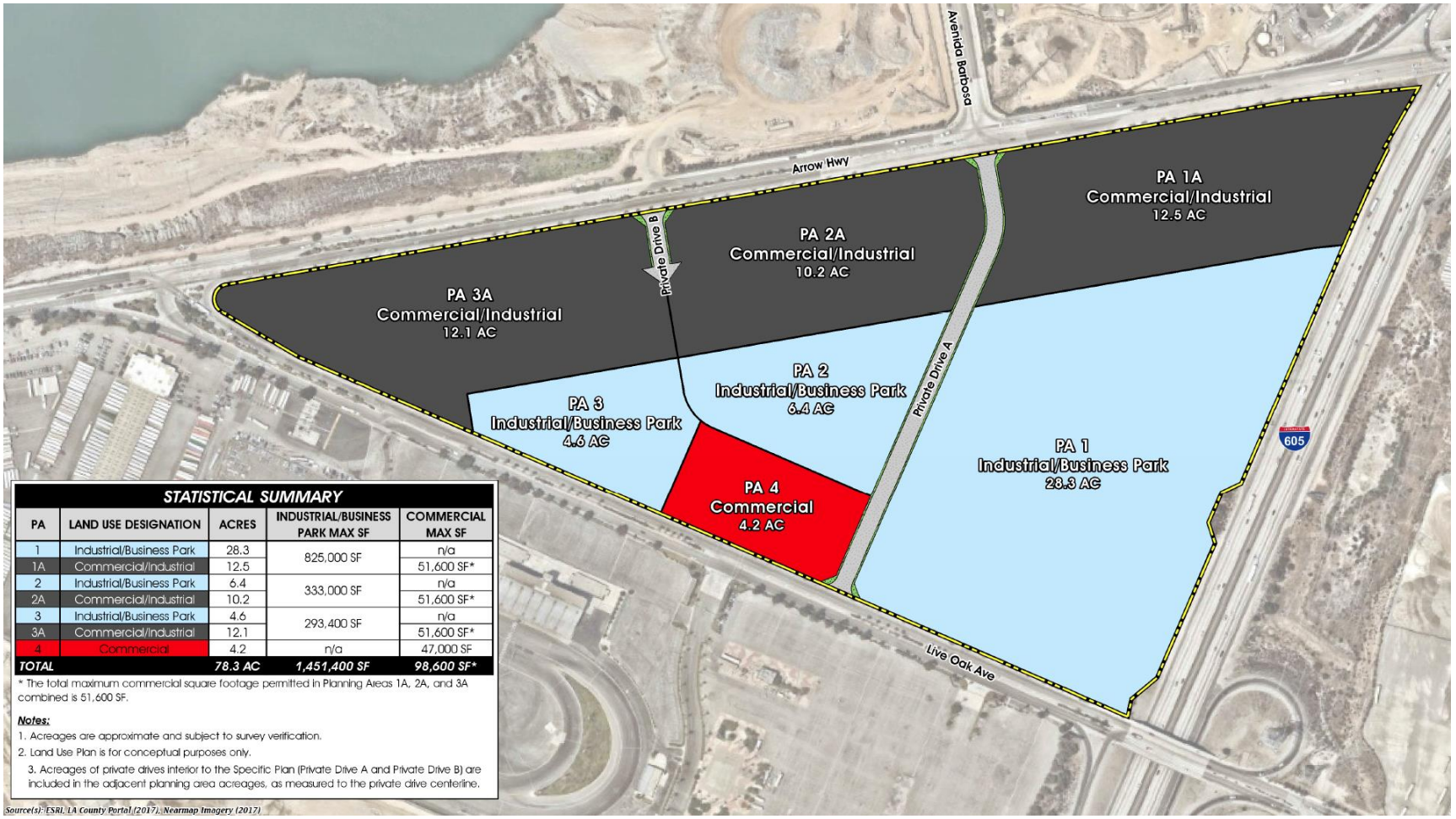


EXHIBIT 1-B: SPECIFIC PLAN LAND USE PLAN



STATISTICAL SUMMARY

PA	LAND USE DESIGNATION	ACRES	INDUSTRIAL/BUSINESS PARK MAX SF	COMMERCIAL MAX SF
1	Industrial/Business Park	28.3	825,000 SF	n/a
1A	Commercial/Industrial	12.5		51,600 SF*
2	Industrial/Business Park	6.4	333,000 SF	n/a
2A	Commercial/Industrial	10.2		51,600 SF*
3	Industrial/Business Park	4.6	293,400 SF	n/a
3A	Commercial/Industrial	12.1		51,600 SF*
4	Commercial	4.2	n/a	47,000 SF
TOTAL		*78.3 AC*	*1,451,400 SF*	*98,600 SF**

* The total maximum commercial square footage permitted in Planning Areas 1A, 2A, and 3A combined is 51,600 SF.

Notes:

1. Acreages are approximate and subject to survey verification.
2. Land Use Plan is for conceptual purposes only.
3. Acreages of private drives interior to the Specific Plan (Private Drive A and Private Drive B) are included in the adjacent planning area acreages, as measured to the private drive centerline.

Source(s): ESRI, LA County Portal (2017), Nearmap Imagery (2017)

- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less

BACM AQ-2

- Only "Low-Volatile Organic Compounds" paints (no more than 50 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications consistent with South Coast Air Quality Management District Rule 1113 shall be used.

1.5 OPERATIONAL-SOURCE EMISSIONS MITIGATION MEASURES

No feasible mitigation measures exist that would reduce Project-related emissions of NOx and VOC to levels that are less-than-significant. Project operational-source NOx emissions exceedances of applicable SCAQMD regional thresholds are therefore considered significant and unavoidable. Moreover, more than 94 percent of all operational-source emissions (by weight) would be generated by Project mobile sources (traffic). Neither the Project Applicant nor the Lead Agency (City of Irwindale) can substantively or materially affect reductions in Project mobile-source emissions beyond the regulatory requirements, and mitigation measures identified herein. As such the following mitigation measures will reduce impacts to the maximum extent feasible. Notwithstanding, as a conservative measure, no "credit" has been taken in the emission calculations reported herein for implementation of the following mitigation measures.

MM AQ-3

The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:

- Truck drivers shall turn off engines when not in use;
- Diesel delivery trucks servicing the Project shall not idle for more than five (5) minutes[1]; and
- Telephone numbers of the building facilities manager and the CARB to report violations.

1.6 EVALUATION OF APPLICABILITY OF SCAQMD-RECOMMENDED MITIGATION MEASURES

The South Coast Air Quality Management District (SCAQMD) provided a comment letter on the Notice of Preparation of a CEQA document for the Project. The SCAQMD's comment letter includes a reference to several sources to consider for purposes of mitigating significant air quality impacts. The following table evaluates the applicability of the SCAQMD's recommended measures. Applicable and feasible mitigation measures suggested by the SCAQMD have been incorporated into the Project's proposed Specific Plan requirements and/or are listed above in Section 1.3 through 1.5.

[1] While restricted idling is required per MM AQ-3 the analysis presented here takes no quantified credit or reduction in emissions for restricted idling, and reflects an assumed 15-minute "worst case" idling condition.

TABLE 1-1: APPLICABILITY OF SCAQMD-RECOMMENDED MITIGATION MEASURES

Mitigation Measure	Applicability
Chapter 11 of the SCAQMD *CEQA Air Quality Handbook* (Construction)	The applicable mitigation measures listed in Chapter 11 (Tables 11-2, 11-3, and 11-4) of the SCAQMD *CEQA Air Quality Handbook* have been reviewed. However, no additional mitigation measures are necessary beyond those specified in this AQIA report because Project-related construction emissions (regional and localized) would not exceed the applicable SCAQMD thresholds with application of BACMs.
Chapter 11 of the SCAQMD *CEQA Air Quality Handbook* (Operations)	The applicable mitigation measures listed in Chapter 11 (Tables 11-6c and 11-7c) of the SCAQMD *CEQA Air Quality Handbook* have been reviewed. Mitigation measures recommended for the Project are generally consistent with measures recommended by SCAQMD. However, none of the additional mitigation measures beyond those identified above would reduce the significant NO_x impact to less than significant levels. It should be noted the SCAQMD *CEQA Air Quality Handbook* has not been updated since 2003. Additionally, several of the measures listed provide a negligible NO_x reduction with a number designated by SCAQMD has having no quantified benefit or negligible benefit. Therefore, implementation of these measures would not avoid or substantially lessen mobile source NO_x emissions attributable to the project.
SCAQMD CEQA Web Pages (Fugitive Dust)	With application of BACMs, the Project would not have a significant impact for construction related PM_{10} or $PM_{2.5}$ emissions. Therefore, no additional mitigation measures are required to reduce fugitive dust emissions.
SCAQMD CEQA Web Pages (Harbor Craft, Locomotives, Ocean Going Vessels)	These mitigation measures are not applicable to the proposed Project. It is not expected that the Project would include the use of a harbor craft, locomotives, or ocean-going vessels.

SCAQMD CEQA Web Pages (Off-Road Engines)	These measures would not apply to the Project since the intent of these measures are to reduce off-road construction emissions. As shown in the analysis herein, the Project does not result in any significant construction impact therefore no mitigation is required.
SCAQMD CEQA Web Pages (On-Road Engines)	The California Air Resources Board (CARB) has worked closely with the U.S. Environmental Protection Agency (U.S. EPA), engine and vehicle manufacturers, and other interested parties to reduce emissions from heavy-duty diesel vehicles in California, through a combination of measures including regulations requiring the use of ultra-low sulfur diesel fuel, new emission standards, restrictions on idling, addition of post-combustion filter and catalyst equipment, and retrofits for diesel truck fleets. These programs are expected to result in substantial reductions in particulate matter (PM), nitrous oxides (NO_x), volatile organic compounds (VOC), and carbon oxide (CO) emissions as they are fully implemented. Under the Truck and Bus Regulation, adopted by CARB in 2008, all diesel truck fleets operating in California are required to adhere to an aggressive schedule for upgrading and replacing heavy-duty truck engines. All trucks hired or dispatched for service in California are required to comply with this regulation. Pursuant to such regulation, older, heavier trucks, i.e., those with pre-2000-year engines and a gross vehicle weight rating (GVWR) greater than 26,000 pounds are already required to have installed a PM filter and must be replaced with a 2010 engine between 2015 and 2020, depending on the model year. By 2015, all heavier pre-1994 trucks must be upgraded to 2010 engines and newer trucks are thereafter required to be replaced over the next eight years. Older, more polluting trucks are required to be replaced first, while trucks that already have relatively clean 2007-2009 engines are required to be replaced by 2023. Lighter trucks (those with a GVWR of 14,001 to 26,000 pounds) must adhere to a similar schedule and will all be replaced by 2020.

	Further, nearly all trucks that are were required under the Truck and Bus Regulation to be replaced by 2015 are required to be upgraded with a PM filter by that date. Therefore, most heavy-duty trucks entering the project site will meet or exceed U.S. EPA 2007 and 2010 emission standards within a relatively short period of time after the project becomes operational in 2020, and all such trucks entering the property will meet or exceed such standards by 2023. Federal and state agencies regulate and enforce vehicle emission standards. It is not feasible for the City of Irwindale staff to effectively enforce a prohibition on trucks from entering the property that are otherwise permitted to operate in California and access other properties in the city, region, and state. And, even if the City were to apply such a restriction, it would is probable to cause warehouse operators using truck fleets older than 2007/2010 to locate in another location in the South Coast Air Basin where the restriction does not apply, thereby resulting in no improvement to regional air quality. Further if a truck that did not meet this requirement were to attempt access to the site and be denied, there would be more idling emissions and travel emissions associated with that truck.
CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*	All feasible and applicable mitigation measures listed in the Energy, Water, and Transportation sections (as shown in Chart 6-1 and Chart 6-2 of the CAPCOA document) have been applied to the analysis. However, these measures are aimed at reducing GHG emissions and implementation of these measures would not avoid or substantially lessen mobile source NO_x emissions attributable to the project.
SCAQMD Rule 403	As identified in BACM AQ-1 the Project is required to comply with applicable SCAQMD Rules including, but not limited to Rule 403.
SCAQMD's Guidance Document for addressing Air Quality Issues in General Plans and Local Planning	These measures are not applicable to the proposed Project because the measures listed are aimed towards local governments as a guidance to reduce community exposure to source-specific air pollution impacts at the General Plan level.

Require the use of 2010 or newer haul trucks (e.g., material delivery trucks and soil import/export). In the event that the 2010 model year or newer diesel haul trucks cannot be obtained, provide documentation as information becomes available and use trucks that meet EPA measures such as incentives, phase-in schedules for clean trucks, etc.	This mitigation measure is not applicable to the proposed Project because Project-related construction emissions (regional and localized) would not exceed the applicable SCAQMD thresholds with application of BACMs.
Have truck routes clearly marked with trailblazer signs, so that trucks will not enter residential areas.	This mitigation measure is not applicable to the Project because the Project Applicant has no authority to post signs off-site. Given that the Project site is located adjacent to I-605, it is reasonable to expect that trucks serving the Project will access the site from I-605. There are no residential areas between I-605 and the Project site.
Limit the daily number of trucks allowed at the Proposed Project to levels analyzed in the CEQA document. If higher daily truck volumes are anticipated to visit the site, the Lead Agency should commit to re-evaluating the Proposed Project through CEQA prior to allowing this land use or higher activity level.	The traffic volumes analyzed for the Project are based on a reasonable expectation of trip volume considering the allowable uses and intensities identified in the proposed Specific Plan and a conservative assessment of potential market absorption of each use. Given that multiple buildings of various commercial, industrial, and business park user types are expected to be constructed in the Specific Plan area, there is no practical way to monitor the number of truck trips that will occur to all of the buildings.
Provide electric vehicle (EV) Charging Stations (see the discussion below regarding EV charging stations).	The Project will provide the number of passenger car EV Charging Stations required by CalGreen. Buildings will be constructed to accommodate warehouse, industrial, and/or manufacturing users will provide adequate electrical capacity in the building to accommodate the future installation of EV charging stations for trucks, and conduit will be installed to the location on the site where the future charging stations would be most appropriately located.
Should the Proposed Project generate significant regional emissions, the Lead Agency should require mitigation that requires accelerated phase in for non-diesel-powered trucks. For example, trucks can provide substantial reduction in health risks, and may be more financially feasible today due to reduce fuel costs compared to diesel.	The Project will provide the number of passenger car EV Charging Stations required by CalGreen. Buildings will be constructed to accommodate warehouse, industrial, and/or manufacturing users will provide adequate electrical capacity in the building to accommodate the future installation of EV charging stations for trucks, and conduit will be installed to the location on the site where the

In the Final CEQA document, the Lead Agency should require a phase-in schedule for these cleaner operating trucks to reduce any significant adverse air quality impacts. SCAQMD staff is available to discuss the availability of current and upcoming truck technologies and incentive programs with the Lead Agency.	future charging stations would be most appropriately located.
Trucks that can operate at least partially on electricity have the ability to substantially reduce the significant NOx impacts from this project. Further, trucks that run at least partially on electricity are projected to become available during the life of the project as discussed in the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS). It is important to make this electrical infrastructure available when the project is built so that it is ready when this technology becomes commercially available. The cost of installing electrical charging equipment onsite is significantly cheaper if completed when the project is built compared to retrofitting an existing building. Therefore, SCAQMD staff recommends the Lead Agency require the Proposed Project and other plan areas that allow truck parking to be constructed with the appropriate infrastructure to facilitate sufficient electric charging for trucks to plug-in. Similar to the City of Los Angeles requirements for all new projects, SCAQMD staff recommends that the Lead Agency require at least 5% of all vehicle parking spaces (including for trucks) include EV charging stations. Further, electrical hookups should be provided at the onsite truck stop for truckers to plug in any onboard auxiliary equipment. At a minimum electrical panels should appropriately be sized to allow for the future expanded use.	Buildings will be constructed to accommodate warehouse, industrial, and/or manufacturing users will provide adequate electrical capacity in the building to accommodate the future installation of EV charging stations for trucks, and conduit will be installed to the location on the site where the future charging stations would be most appropriately located.

Design the industrial building such that entrances and exists are such that trucks are not traversing past neighbor or other sensitive receptors.	Given that the Project site is located adjacent to I-605, it is reasonable to expect that trucks serving the Project will access the site from I-605. There are no residential areas between I-605 and the Project site, and no residential uses within approximately ½ mile around the Project site.
Design the industrial building such that any check-in point for trucks is well inside the Proposed Project site to ensure that there are no trucks queuing outside the facility.	Pursuant to the Specific Plan, guardhouses and gates will be sufficiently placed inside the site to allow at least two trucks to queue in front of the guardhouse or gate off the public street.
Design the industrial building to ensure that truck traffic with the Proposed Project site is located away from the property line(s) closest to its residential or sensitive receptor neighbors.	As indicated in Mitigation Measure AQ-4, for buildings that have access gates, the site design shall allow sufficient stacking area for trucks to check-in at the access gate to prevent queuing of trucks on Live Oak Avenue, Arrow Highway, and other areas outside the Specific Plan area. There are no residential land uses immediately adjacent to the Project site; the closest residential use is approximately ½ mile away to the north.
Restrict overnight parking in residential areas.	There are no residential areas proposed as part of the Project. Regarding off-site residential areas, this mitigation measure is not applicable because the Project site is not located adjacent to any residential land uses, nor does the Project Applicant have the ability to restrict parking off-site.
Establish overnight parking within the industrial building where trucks can rest overnight.	The Project entails a Specific Plan entitlement. No buildings are proposed at this time, and there are no hour restrictions for operation or overnight parking specified in the Specific Plan.
Establish area(s) within the proposed Project site for repair needs.	The Project entails a Specific Plan entitlement. No buildings are proposed at this time, and there are no restrictions specified in the Specific Plan that would prohibit the inclusion of repair services.
Develop, adopt and enforce truck routes both in and out of the city, and in and out of facilities.	This mitigation measure is not applicable to the proposed Project. The Project does not have regulatory authority to control truck routes. Given that the Project site is located adjacent to I-605, it is reasonable to expect that trucks serving the Project will access the site from I-605 and not heavily utilize local streets in the area.

Create a buffer zone of at least 300 meters (roughly 1,000 feet), which can be office space, employee parking, greenbelt, etc. between the Proposed Project and sensitive receptors.	This mitigation measure is not applicable to the proposed Project as the Project site is not located within 1,000 feet of any sensitive receptors.
Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on the building roofs and/or on the Project site to generate solar energy for the facility.	The Project entails a Specific Plan entitlement. No buildings are proposed at this time, and there are no restrictions specified in the Specific Plan that would prohibit the inclusion of solar panels on building roofs. Per the requirements of CalGreen, a percentage of the buildings' roofs are required to be solar-ready.
Maximize the planting of trees in landscaping and parking lots.	The Project entails a Specific Plan entitlement. No site-specific landscaping plans are proposed at this time, although the Specific Plan includes landscaping requirements that must be adhered to at the time that site plans are designed and implemented. The Specific Plan's landscaping guidelines call for the planting of trees, including in parking lots.
Use light colored paving and roofing materials.	The Project entails a Specific Plan entitlement. Although no buildings are proposed at this time, the Specific Plan's architectural guidelines state that building roofs shall be light-colored and have a low heat reflective value. Also, the Specific Plan allows for concrete to be used as a surface material instead of asphalt, which has a lower heat-reflective value.
Utilize only Energy Star heating, cooling, and lighting devices, and appliances.	The Project will comply with this measure as it is required by CalGreen.
Require use of electric or alternatively fueled sweepers with HEPA filters.	The Project will comply with the use of electric or alternatively fueled sweepers with HEPA filters as this measure is required by SCAQMD Rule 1186.
Use of water-based or low VOC cleaning products.	The Project will comply with this measure as it is required by SCAQMD Rule 1113.

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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (10). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As discussed above, the Project site is located within the South Coast Air Basin, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The larger South Coast district boundary includes 10,743 square miles.

The SCAB is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bound by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bound by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14 1/2 hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_x and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

2.4 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect, as well health effects of each pollutant regulated under these standards are shown in Table 2-1 (11) (12).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards presented in Table 2-1. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O_3 standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

TABLE 2-1: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Ambient Air Quality Standards						
Pollutant	**Averaging Time**	**California Standards [1]**		**National Standards [2]**		
		Concentration [3]	**Method [4]**	**Primary [3,5]**	**Secondary [3,6]**	**Method [7]**
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flouresence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 — California Air Resources Board (5/4/16)

TABLE 2-1: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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2.5 REGIONAL AIR QUALITY

The SCAQMD monitors levels of various criteria pollutants at 38 permanent monitoring stations and 5 single-pollutant source Lead (Pb) air monitoring sites throughout the air district (13). In 2015, the federal and state ambient air quality standards (NAAQS and CAAQS) were exceeded on one or more days for ozone, PM_{10}, and $PM_{2.5}$ at most monitoring locations (14). No areas of the SCAB exceeded federal or state standards for NO_2, SO_2, CO, sulfates or lead. See Table 2-2, for attainment designations for the SCAB (15) (16). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

TABLE 2-2: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN (SCAB)

Criteria Pollutant	State Designation	Federal Designation
Ozone - 1hour standard	Nonattainment	Nonattainment ("extreme")
Ozone - 8 hour standard	Nonattainment	Nonattainment ("extreme")
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment ("serious")
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Unclassifiable/Attainment
Sulfur Dioxide	Attainment	Unclassifiable/Attainment
Lead[2]	Attainment	Nonattainment (Partial)

Source: State/Federal designations were taken from http://www.arb.ca.gov/desig/adm/adm.htm
Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the South Coast Air Basin

2.6 LOCAL AIR QUALITY

Relative to the Project site, the nearest long-term air quality monitoring site for Carbon Monoxide (CO), Ozone (O_3), Nitrogen Dioxide (NO_2), Particulate Matter ≤ 10 Microns (PM_{10}), and Ultra-Fine Particulates ($PM_{2.5}$) was obtained from the East San Gabriel Valley monitoring station (SRA 9), located approximately 3.45 miles northeast of the project site in Azusa.

The most recent three (3) years of data available is shown on Table 2-3 and identifies the number of days ambient air quality standards were exceeded for the study area, which is was considered to be representative of the local air quality at the Project site (17) (18). Additionally, data for SO_2 has been omitted as attainment is regularly met in the South Coast Air Basin and few monitoring stations measure SO_2 concentrations.

[2] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

TABLE 2-3: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2014-2016

POLLUTANT	STANDARD	YEAR		
		2014	2015	2016
Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.123	0.122	0.146
Maximum 8-Hour Concentration (ppm)		0.092	0.096	0.106
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	11	21	30
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	20	28	40
Number of Days Exceeding Federal 8-Hour Standard	> 0.07 ppm	0	0	0
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0.123	0.122	0.146
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		2.0	2.1	1.3
Maximum 8-Hour Concentration (ppm)		1.9	1.3	1.2
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)		0.070	0.071	0.074
Annual Arithmetic Mean Concentration (ppm)		0.018	0.015	0.029
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration (µg/m^3)		96	101	74
Annual Arithmetic Mean (µg/m^3)		44.1	37.1	33.7
Number of Samples		60	59	60
Number of Samples Exceeding State Standard	> 50 µg/m^3	22	12	12
Number of Samples Exceeding Federal Standard	> 150 µg/m^3	0	0	0
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)				
Maximum 24-Hour Concentration (µg/m^3)		32.4	44.3	32.2
Annual Arithmetic Mean (µg/m^3)		11.63	9.40	10.15
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m^3	0	1	0

-- = data not available from SCAQMD or ARB;

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and effects are identified below:

- Carbon Monoxide (CO): Is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant

at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- Sulfur Dioxide (SO_2): Is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X).
- Nitrogen Oxides (Oxides of Nitrogen, or NO_x): Nitrogen oxides (NO_x) consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitors.
- Ozone (O_3): Is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- PM_{10} (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM_{10} also causes visibility reduction and is a criteria air pollutant.
- $PM_{2.5}$ (Particulate Matter less than 2.5 microns): A similar air pollutant consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NOX release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.
- Volatile Organic Compounds (VOC): Volatile organic compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.

- Reactive Organic Gases (ROG): Similar to VOC, Reactive Organic Gases (ROG) are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC (see previous) interchangeably.
- Lead (Pb): Lead is a heavy metal that is highly persistent in the environment. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any of the SCAQMD's regular air monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. It should be noted that the Project is not anticipated to generate a quantifiable amount of lead emissions. Lead is a criteria air pollutant.

Health Effects of Air Pollutants

Ozone

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Carbon Monoxide

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels; these include pre-term births and heart abnormalities.

Particulate Matter

A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter.

The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

Nitrogen Dioxide

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO_2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.

Sulfur Dioxide

A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung

edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Lead

Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.

Odors

The science of odor as a health concern is still new. Merely identifying the hundreds of VOCs that cause odors poses a big challenge. Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.7 REGULATORY BACKGROUND

2.7.1 FEDERAL REGULATIONS

The U.S. EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_x, SO_2, PM_{10}, and lead (19). The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (20). The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local

areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and lead. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 3-1 (previously presented) provides the NAAQS within the basin.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NO_x). NOx is a collective term that includes all forms of nitrogen oxides (NO, NO_2, NO_3) which are emitted as byproducts of the combustion process.

2.7.2 CALIFORNIA REGULATIONS

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (21) (19).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare air quality management plans that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;

- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROGs, NO_x, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent per year under certain circumstances.

2.7.3 AIR QUALITY MANAGEMENT PLANNING

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In regards to the NAAQS, the Project region within the SCAB is in nonattainment for ozone (8-hour) and $PM_{2.5}$. For the CAAQS, the Project region within the SCAB is in nonattainment for ozone (1-hour and 8-hour), PM_{10}, and $PM_{2.5}$. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards (22). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.10.

2.8 REGIONAL AIR QUALITY IMPROVEMENT

The Project is within the jurisdiction of the SCAQMD. In 1976, California adopted the Lewis Air Quality Management Act which created SCAQMD from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The geographic area of which SCAQMD consists is known as the Basin. SCAQMD develops comprehensive plans and regulatory programs for the region to attain federal standards by dates specified in federal law. The agency is also responsible for meeting state standards by the earliest date achievable, using reasonably available control measures.

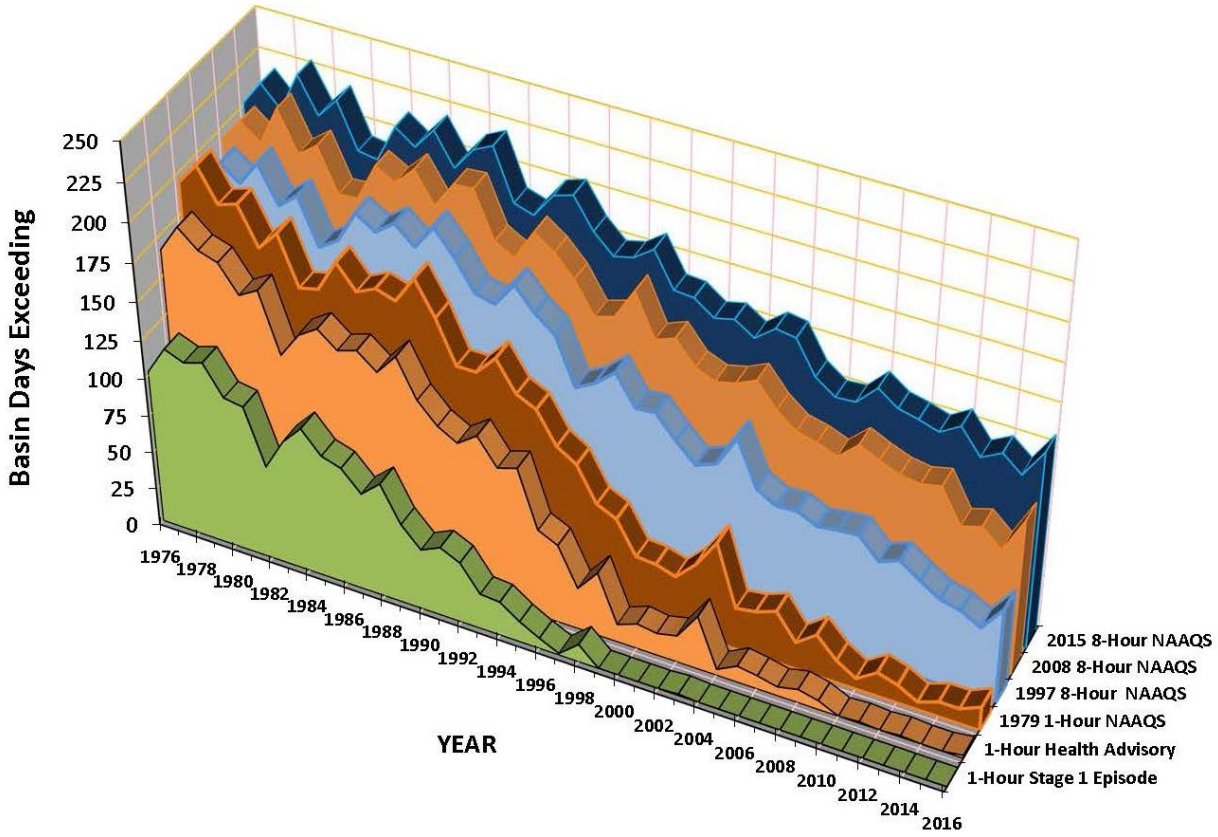
SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire Basin. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the South Coast Basin. The 2012 AQMP states, “the remarkable historical improvement in air quality since the 1970’s is the direct result of Southern California’s comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs,” (23).

Ozone, NO_x, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020 (24). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin

continue to increase, NO_x and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_x emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. Ozone contour maps show that the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period. Ozone levels in the SCAB have decreased substantially over the last 30 years as shown in Table 2-4 (25). Today, the maximum measured concentrations are approximately one-third of concentrations within the late 70's.

TABLE 2-4: SOUTH COAST AIR BASIN OZONE TREND



The overall trends of PM_{10} and $PM_{2.5}$ in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the Basin and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

As with other pollutants, the most recent PM_{10} statistics also show overall improvement as illustrated in Table 2-5. During the period for which data are available, the 24-hour national annual average decreased by approximately 50 percent, from 103.7 µg/m³ in 1989 to 52.3 µg/m³ in 2016. Although the values in the late 1990's show some variability, this is probably due to meteorology rather than a change in emissions. Despite the overall decrease, ambient concentrations still exceed the State annual and 24-hour PM_{10} standards. Similar to the ambient

concentrations, the calculated number of days above the 24-hour PM_{10} standards has also shown an overall drop. The most recent report to include information on the number of days above the national standard was in 2015, in which there were 6.6 calculated national standard exceedance days (26).

TABLE 2-5: SOUTH COAST AIR BASIN PM_{10} TREND

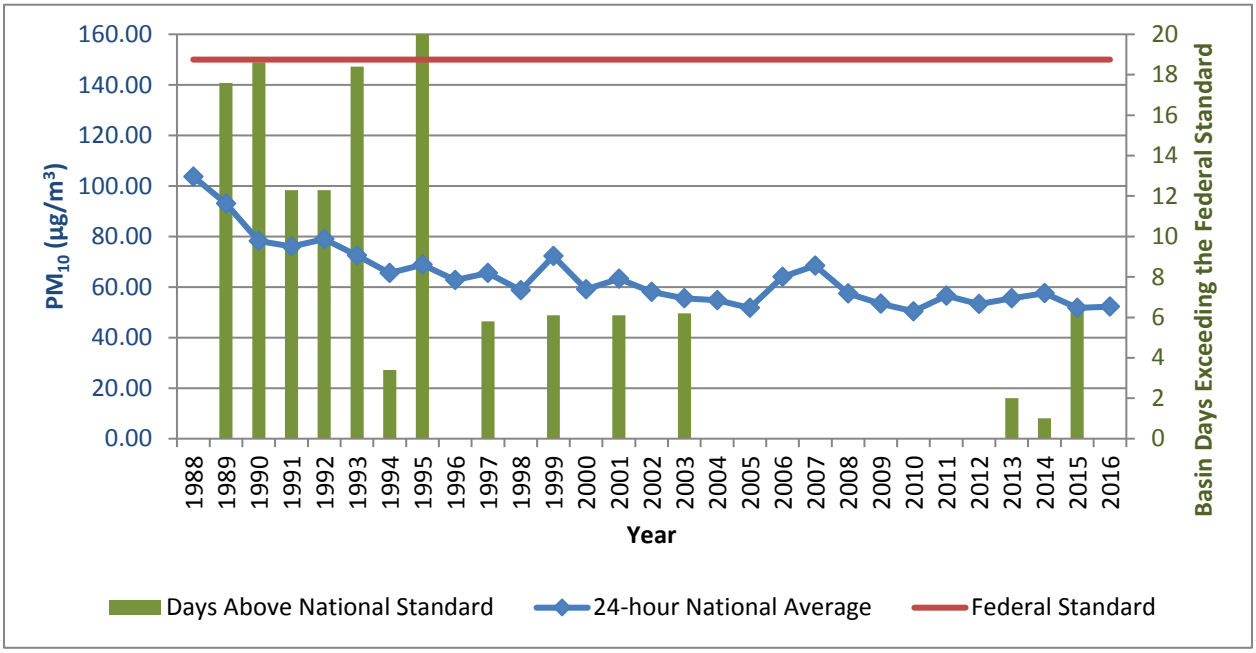


Table 2-6 shows the most recent 24-hour average $PM_{2.5}$ concentrations (national) in the SCAB from 1999 through 2016. Overall, the annual average concentrations have decreased by almost 51 percent. The calculated number of days above the national standard also decreased, from about 88 days in 1999 to about 7 days in 2016. The SCAB is currently designated as nonattainment for the State and national $PM_{2.5}$ standards.

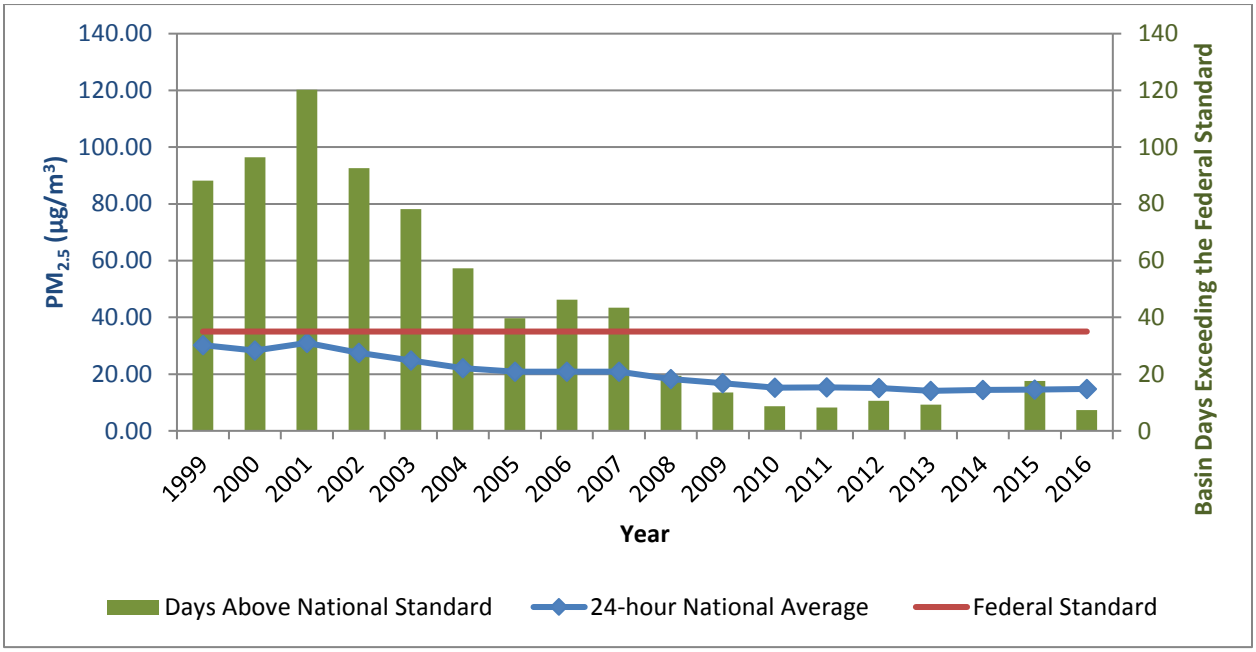
While the 2012 AQMP PM_{10} attainment demonstration and the 2015 associated supplemental SIP submission indicated that attainment of the 24-hour standard was predicted to occur by the end of 2015, it could not anticipate the effect of the ongoing drought on the measured $PM_{2.5}$.

The 2006 to 2010 base period used for the 2012 attainment demonstration had near-normal rainfall. While the trend of $PM_{2.5}$- equivalent emission reductions continued through 2015, the severe drought conditions contributed to the $PM_{2.5}$ increases observed after 2012. As a result of the disrupted progress toward attainment of the federal 24-hour $PM_{2.5}$ standard, SCAQMD submitted a request and the U.S. EPA approved, in January 2016, a "bump up" to the nonattainment classification from "moderate" to "serious," with a new attainment deadline as soon as practicable, but not beyond December 31, 2019.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy

with fair-share reductions at the federal, state, and local levels (27). Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 RTP/SCS and updated emission inventory methodologies for various source categories (28).

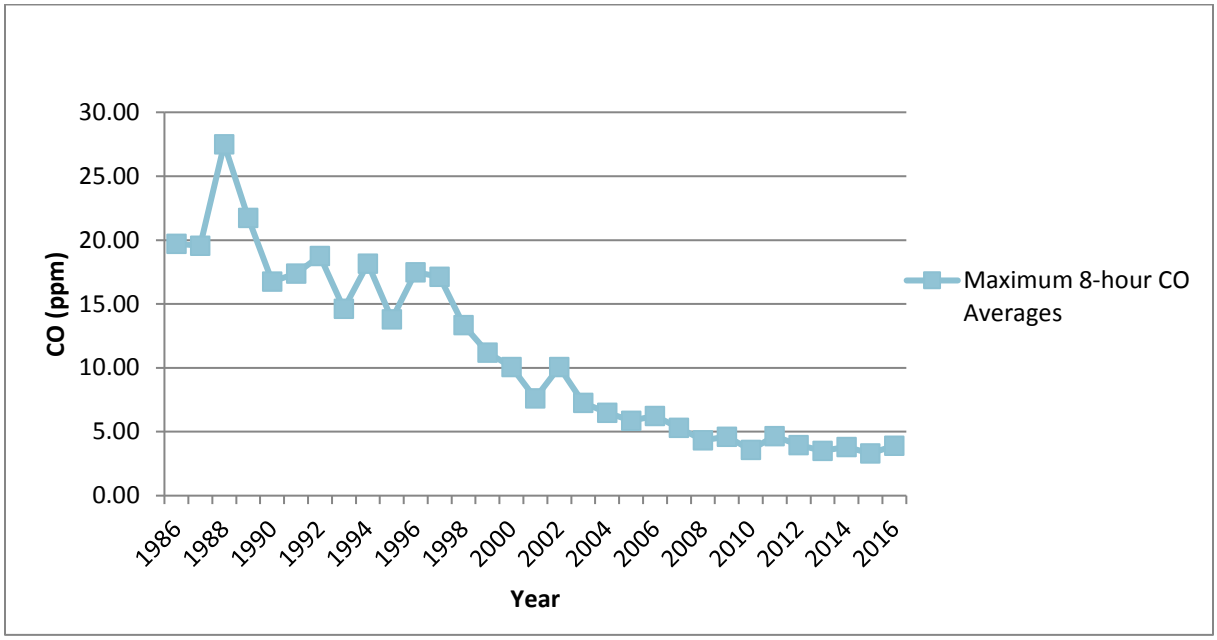
TABLE 2-6: SOUTH COAST AIR BASIN $PM_{2.5}$ TREND



The most recent CO concentrations in the SCAB are shown in Table 2-7 (29). CO concentrations in the SCAB have decreased markedly — a total decrease of more about 80 percent in the peak 8-hour concentration since 1986. The number of exceedance days has also declined. The entire SCAB is now designated as attainment for both the state and national CO standards. Ongoing reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations.

Part of the control process of the SCAQMD's duty to greatly improve the air quality in the Basin is the uniform CEQA review procedures required by SCAQMD's CEQA Handbook (30). The single threshold of significance used to assess Project direct and cumulative impacts has in fact "worked" as evidenced by the track record of the air quality in the Basin dramatically improving over the course of the past decades. As stated by the SCAQMD, the District's thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this Project.

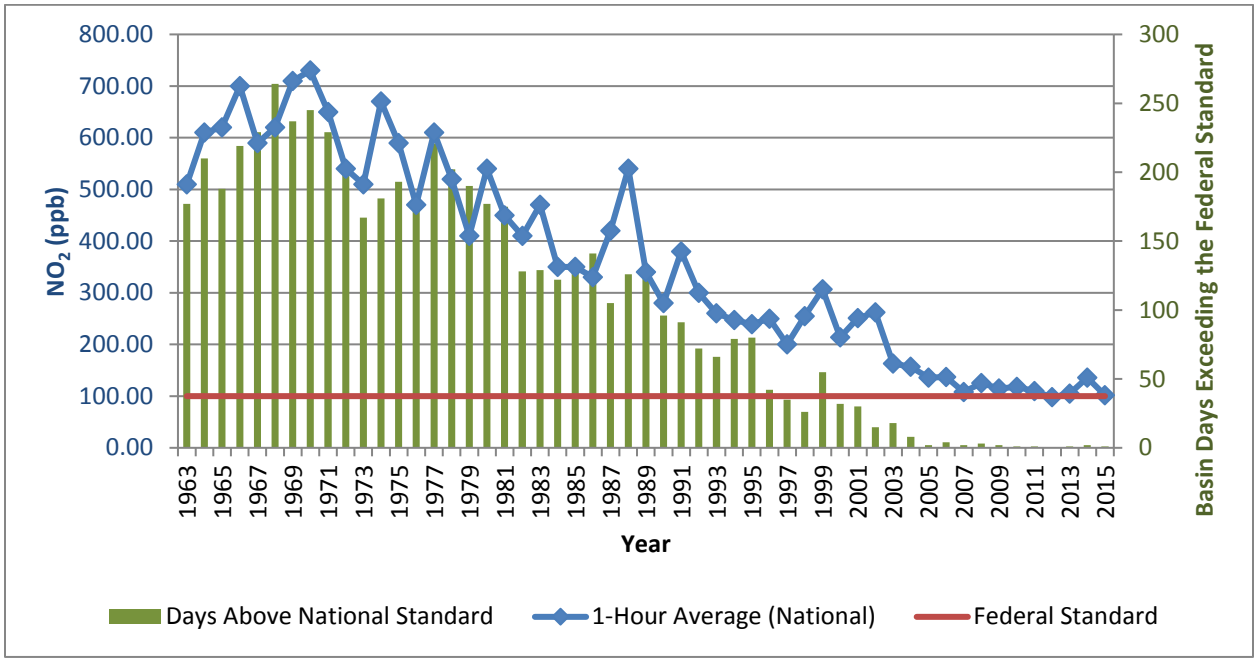
TABLE 2-7: SOUTH COAST AIR BASIN CARBON MONOXIDE TREND



The most recent NO_2 data for the SCAB is shown in Table 2-8 (29). Over the last 50 years, NO_2 values have decreased significantly; the peak 1-hour average for 2016 was approximately 81 percent lower than what it was during 1963. The SCAB attained the State 1-hour NO_2 standard in 1994, bringing the entire State into attainment. A new state annual average standard of 0.030 parts per million was adopted by the ARB in February 2007 (31). The new standard is just barely exceeded in the South Coast. NO_2 is formed from NO_x emissions, which also contribute to ozone. As a result, the majority of the future emission control measures will be implemented as part of the overall ozone control strategy. Many of these control measures will target mobile sources, which account for more than three-quarters of California's NO_x emissions. These measures are expected to bring the South Coast into attainment of the State annual average standard.

The American Lung Association website includes data collected from State air quality monitors that are used to compile an annual State of the Air report. The latest State of the Air Report compiled for the Basin was in 2017 (32). As noted in this report, air quality in the Basin has significantly improved in terms of both pollution levels and high pollution days over the past three decades. The area's average number of high ozone days dropped from 38% regionally in the initial 2000 State of the Air report (1996–1998) to 69% in the 2004 report and continues to decrease the number of days. The region has also seen dramatic reduction in particle pollution since the initial 2000 State of the Air report (32).

TABLE 2-8: SOUTH COAST AIR BASIN NITROGEN DIOXIDE TREND

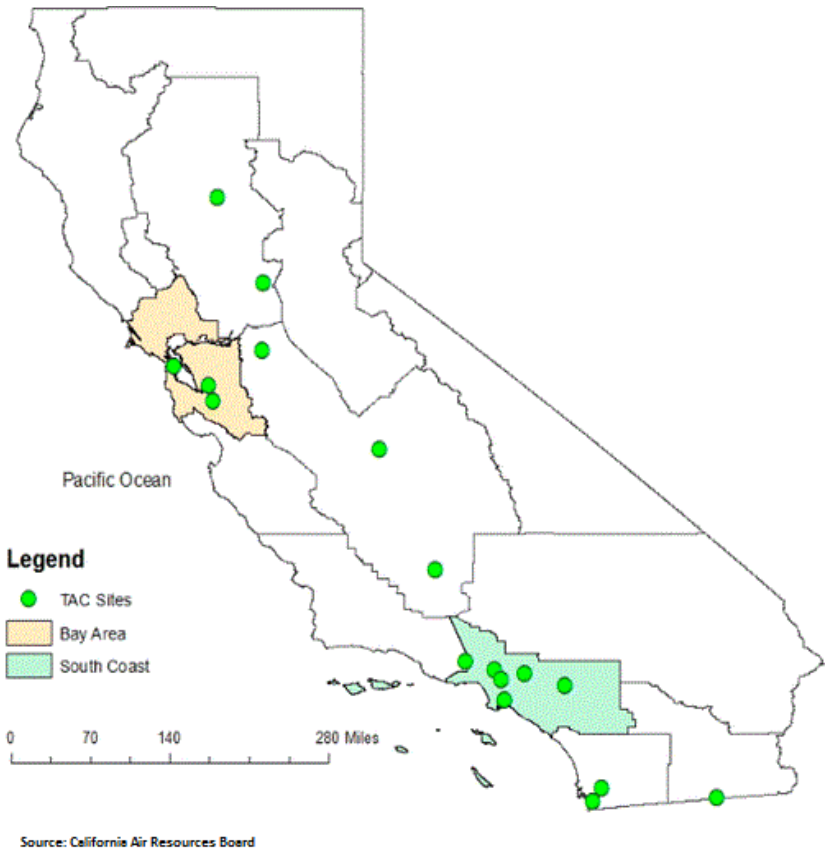


TOXIC AIR CONTAMINANTS (TACS) TRENDS

In 1984, as a result of public concern for exposure to airborne carcinogens, the CARB adopted regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article (33) which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene, and 1,3-butadiene; those that are derived from stationary sources: perchloroethylene and hexavalent chromium; and those derived from photochemical reactions of emitted VOCs: formaldehyde and acetaldehyde[3]. TACs data was gathered at monitoring sites from both the Bay Area and South Coast Air Basins, as shown on Exhibit 2-A; Several of the sites in the SCAB include Reseda, Compton, Rubidoux, Burbank, and Fontana. The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

[3] It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

EXHIBIT 2-A: CALIFORNIA TOXIC AIR CONTAMINANT SITES



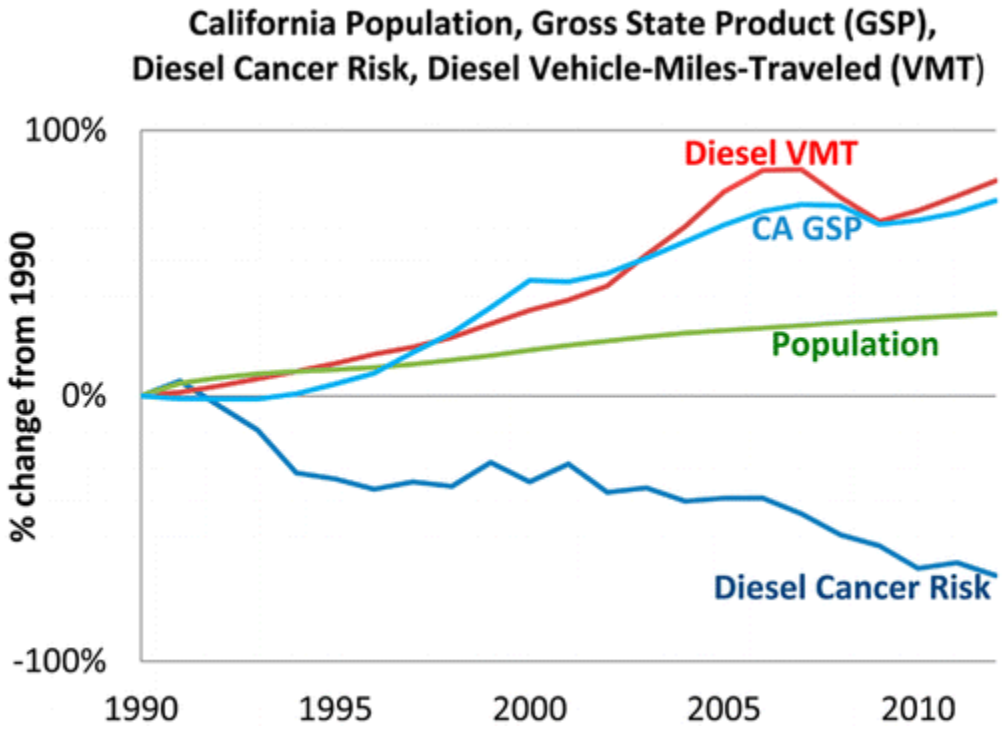
Mobile Source TACs

CARB introduced two programs that aimed at reducing mobile emissions for light and medium duty vehicles through vehicle emissions controls and cleaner fuel. In California, light-duty vehicles sold after 1996 are equipped with California's second-generation On-Board Diagnostic (OBD-II) system. The OBD II system monitors virtually every component that can affect the emission performance of the vehicle to ensure that the vehicle remains as clean as possible over its entire life, and assists repair technicians in diagnosing and fixing problems with the computerized engine controls. If a problem is detected, the OBD II system illuminates a warning lamp on the vehicle instrument panel to alert the driver. This warning lamp typically contains the phrase Check Engine or Service Engine Soon. The system will also store important information about the detected malfunction so that a repair technician can accurately find and fix the problem. ARB has recently developed similar OBD requirements for heavy-duty vehicles over 14,000 lbs. CARB's phase II Reformulated Gasoline (RFG-2) regulation, adopted in 1996, also led to a reduction of mobile source emissions. Through such regulations, benzene levels declined 88% from 1990-2012. 1,3-Butadiene concentrations also declined 85% from 1990-2012 as a result of the use of reformulated gasoline and motor vehicle regulations (33).

In 2000, CARB's Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (<15ppm) diesel fuel. As a result of these measures, DPM concentrations have declined 68% since 2000, even though the state's

population increased 31% and the amount of diesel vehicles miles traveled increased 81%, as shown on Exhibit 2-B. With the implementation of these diesel-related control regulations, ARB expects a DPM decline of 71% for 2000-2020.

EXHIBIT 2-B: DIESEL PARTICULATE MATTER AND DIESEL VEHICLE MILES TREND



Source: California Air Resources Board

DIESEL REGULATIONS

The CARB and the Ports of Los Angeles and Long Beach have adopted several iterations of regulations for diesel trucks that are aimed at reducing diesel particulate matter (DPM). More specifically, the CARB Drayage Truck Regulation (34), the CARB statewide On-road Truck and Bus Regulation (35), and the Ports of Los Angeles and Long Beach "Clean Truck Program" (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet (36). In other words, older more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements.

Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HDT), in terms of grams of DPM generated per mile traveled, will dramatically be reduced due to the aforementioned regulatory requirements.

Diesel emissions identified in this analysis would therefore overstate future DPM emissions since not all the regulatory requirements are reflected in the modeling.

CANCER RISK TRENDS

Based on information available from CARB, overall cancer risk throughout the basin has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, the State of California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines as a toxic air contaminant. The SCAQMD initiated a comprehensive urban toxic air pollution study, called MATES-II (for Multiple Air Toxics Exposure Study). Diesel particulate matter (DPM) accounts for more than 70 percent of the cancer risk.

In 2008 the SCAQMD prepared an update to the MATES-II study, referred to as MATES-III. MATES-III estimates the average excess cancer risk level from exposure to TACs is an approximately 17% decrease in comparison to the MATES-II study.

Nonetheless, the SCAQMD's most recent in-depth analysis of the toxic air contaminants and their resulting health risks for all of Southern California was from the *Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES IV,"* which shows that cancer risk has decreased more than 55% between MATES III (2005) and MATES IV (2012) (25).

. MATES-IV calculated cancer risks based on monitoring data collected at ten fixed sites within the South Coast Air Basin (SCAB). None of the fixed monitoring sites are within the local area of the Project site. However, MATES-IV has extrapolated the excess cancer risk levels throughout the basin by modeling the specific grids. MATES-IV modeling predicted an excess cancer risk of 1,084.68 in one million for the Project area. DPM is included in this cancer risk along with all other TAC sources. DPM accounts for 68% of the total risk shown in MATES-IV. Cumulative Project generated TACs are limited to DPM.

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3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard or contribute to an existing or projected air quality violation. Additionally, the Project has been evaluated to determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the SCAB is non-attainment under an applicable federal or state ambient air quality standard. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The SCAQMD has developed regional and localized significance thresholds for regulated pollutants, as summarized at Table 3-1 (37). The SCAQMD's CEQA Air Quality Significance Thresholds (March 2015) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact. It should be noted that the SCAQMD provides a threshold for emissions of lead, however for purposes of this analysis no lead emissions are calculated as there are no substantive sources of lead emissions. Additionally, the air quality modeling program (discussed below) does not calculate any emissions of lead from typical construction or operational activities.

TABLE 3-1: MAXIMUM DAILY EMISSIONS THRESHOLDS[A] (1 OF 2)

Pollutant	Construction	Operations
Regional Thresholds		
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
Sox	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

[A]: Based on SCAQMD Air Quality Significance Thresholds, March 2015

TABLE 3-1: MAXIMUM DAILY EMISSIONS THRESHOLDS[A] (2 OF 2)

Pollutant	Construction	Operations
Localized Thresholds		
CO	549 lbs/day (site preparation)	584 lbs/day
	560 lbs/day (grading)	
NOx	23,826 lbs/day (site preparation)	25,558 lbs/day
	24,403 lbs/day (grading)	
PM10	218 lbs/day (site preparation)	55 lbs/day
	222 lbs/day (grading)	
PM2.5	108 lbs/day (site preparation)	28 lbs/day
	111 lbs/day (grading)	

3.3 CALIFORNIA EMISSIONS ESTIMATOR MODEL™ EMPLOYED TO ESTIMATE AQ EMISSIONS

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (38). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.2 through 3.5.

3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO. Construction related emissions are expected from the following construction activities:

- Grading
- Building Construction
- Architectural Coating
- Paving
- Construction Workers Commuting

Construction is expected to commence in July 2019 and will last through December 2020. Construction duration by phase is shown on Table 3-2. The construction schedule utilized in the

analysis represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[4] The duration of construction activity and associated construction equipment were based on similar projects and CalEEMod defaults. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA guidelines. Site specific construction fleet may vary due to specific project needs at the time of construction. Please refer to specific detailed modeling inputs/outputs contained in Appendix 3.2 of this analysis. A detailed summary of construction equipment assumptions by phase is provided at Table 3-3.

Dust is typically a major concern during rough grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). The CalEEMod model was utilized to calculate fugitive dust emissions resulting from this phase of activity. It is our understanding the Project site will not require any demolition, and earth movement activity is currently occurring pursuant to an approved City of Irwindale Grading Permit to raise the site from its former mined condition to a relatively flat mass building pad. Upon completion of the already permitted grading process (which is not a part of the proposed Project evaluated in this report), the Project site will be "at grade" and suitable for construction, with no need for additional over-excavation or mass grading work. The grading activity evaluated in this report is limited to precise grading required to create building pads, roads, parking and truck court areas, detention basins, and landscaped areas, and other features associated with the implementation of development plans. Additionally, based on consultation with the client, the Project site is expected to balance (will not require soil import/export as part of the precise grading activities).

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from the applicant and the CalEEMod model.

4 As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2016.3.2, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 3-2: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation	07/01/2019	08/23/2019	40
Grading	08/24/2019	01/24/2020	110
Building Construction	01/25/2020	12/11/2020	230
Paving	09/05/2020	12/18/2020	75
Architectural Coating	04/11/2020	12/18/2020	180

TABLE 3-3: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment Type	Number of Equipment	Hours per day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Cranes	1	8
	Crawler Tractors	3	8
	Forklifts	3	8
	Generator Sets	1	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS

Construction emissions associated with off-site utility and infrastructure improvements would occur as part of the Project. Roadway frontage improvements would occur outside of the Specific Plan boundary, as well as off-site water system improvements. Although a specific schedule of off-site utility and infrastructure improvements is unknown, based upon Urban Crossroads' extensive experience in analyzing off-site utility and infrastructure improvements for similar types of projects, the impacts associated with these expected activities are not expected to exceed the daily emission quantities identified for Project-related construction activities. As such, no impacts associated with off-site utility and infrastructure improvements beyond what has already been identified in this report are expected to occur. The analysis herein is conservative and anticipates operation of several pieces of equipment that would be operating at any given time period, during off-site utility and infrastructure improvements, the disturbance areas would

be limited and less than what is evaluated for the Project site. Similarly, any localized impacts associated with off-site utility and infrastructure improvements would occur in limited daily disturbance areas due to physical constraints and would therefore not result in any localized impacts beyond those identified for peak site preparation and grading activities identified later in this report.

3.4.1 CONSTRUCTION EMISSIONS SUMMARY

The SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 1113 (Architectural Coatings) (4); Rule 431.2 (Low Sulfur Fuel) (5); Rule 403 (Fugitive Dust) (6); Rule 402 (Nuisance) (7) and Rule 1186 / 1186.1 (Street Sweepers) (8) (9). As such, credit for Rule 1113 and Rule 403 have been taken.

The estimated maximum daily construction emissions without mitigation are summarized on Table 3-4. Detailed construction model outputs are presented in Appendix 3.2. Under the assumed scenarios, emissions resulting from the Project construction would not exceed criteria pollutant thresholds established by the SCAQMD for emissions for any criteria pollutant. Therefore, a less than significant impact would occur and no mitigation is required.

TABLE 3-4: MAXIMUM DAILY PEAK CONSTRUCTION EMISSIONS SUMMARY

Year	Emissions (pounds per day)					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
2019	5.93	68.18	34.73	0.07	11.04	6.75
2020	50.55	85.39	75.66	0.23	14.31	5.68
Maximum Daily Emissions	**50.55**	**85.39**	**75.66**	**0.23**	**14.31**	**6.75**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of VOCs, NO_x, SO_x, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Equipment Emissions

3.5.1 AREA SOURCE EMISSIONS

Architectural Coatings

Over a period of time the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other

surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using the CalEEMod model.

Consumer Products

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within the CalEEMod model.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod model.

3.5.2 ENERGY SOURCE EMISSIONS

Combustion Emissions Associated with Natural Gas and Electricity

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using the CalEEMod model.

3.5.3 MOBILE SOURCE EMISSIONS

Vehicles

Project-related operational air quality emissions derive predominantly from mobile sources. In this regard, over 92 percent (by weight) of all Project operational-source emissions would be generated by mobile sources (vehicles). Neither the Project Applicant nor the City has any regulatory control over these tail pipe emissions. Rather, vehicle tail pipe source emissions are regulated by CARB and USEPA. As summarized previously herein, as the result of CARB and USEPA actions, Basin-wide vehicular-source emissions have been reduced dramatically over the past years and are expected to further decline as clean vehicle and fuel technologies improve.

The Project related operational air quality emissions derive primarily from vehicle trips generated by the Project. Trip characteristics available from the report, *The Park @ Live Oak Traffic Impact Analysis* (Urban Crossroads 2018) were utilized in this analysis (3).

Per *The Park @ Live Oak Traffic Impact Analysis* prepared by Urban Crossroads, Inc. the Project is expected to generate a net total of approximately 14,607 trip-ends per day (actual vehicles).

(3) The Project trip generation includes 808 truck trip-ends per day from the proposed Project site including 37.4% 2-axle trucks, 18.2% 3-axle trucks, and 44.4% 4+-axle trucks for General Light Industrial use, 16.9% 2-axle trucks, 22.7% 3-axle trucks, and 60.4% 4+-axle trucks for Manufacturing use, 4.7% 2-axle trucks, 26.9% 3-axle trucks, and 68.4% 4+-axle trucks for Unrefrigerated Warehouse No Rail[5] use, and 34.7% 2-axle trucks, 11.0% 3-axle trucks, and 54.3% 4+-axle trucks for Refrigerated Warehouse No Rail use.

3.5.3.1 Trip Length

For passenger car trips, a one-way trip length of 16.6 miles was assumed as contained in the CalEEMod™ model defaults. For trucks, an average one-way trip length of 50 miles was derived from distances from the Project site to the far edges of the South Coast Air Basin (SCAB). Assuming 50% of trucks travel to the Port of Los Angles and Port of Long Beach and the remaining 50% of trucks travel to either the Cajon Pass, Downtown Los Angeles, Banning Pass/San Gorgonio, and/or San Diego County Line, a weighted truck trip length of 47.7 miles was determined. For purposes of analysis, and as a conservative measure, a truck trip length of 50 miles was used. It is appropriate to stop the VMT calculation at the boundary of the SCAB because any activity beyond that boundary would be speculative and occur in a different Air Basin; this approach is also consistent with professional industry practice. It is important to note that the trip length listed below takes into account the truck trip distribution patterns as analyzed in the TIA. The approach for analysis purposes in this AQIA report represents a conservative estimate of emissions and almost certainly overstates the emissions impact from the Project.

- Project site to the Port of Los Angeles/Long Beach: 40 miles;
- Project site to Cajon Pass: 49 miles;
- Project site to Downtown Los Angeles: 21 miles;
- Project site to Banning Pass/San Gorgorino Pass: 83 miles;
- Project site to San Diego County: 68 miles;

Weighted Truck Trip Length = 50 miles

Fugitive Dust Related to Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. The emissions estimates for travel on paved roads were calculated using the CalEEMod model.

3.5.4 On-Site Equipment Emissions

It is common for industrial warehouse buildings to require cargo handling equipment to move empty containers and empty chassis to and from the various pieces of cargo handling equipment that receive and distribute containers. The most common type of cargo handling equipment is the yard truck which is designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors (UTRs), hustlers, yard hostlers, and yard tractors. The cargo handling

[5] CalEEMod does not provide a wide variety of options for various industrial uses. For purposes of analysis, Unrefrigerated Warehouse No Rail includes High-Cube Fulfillment Center Warehouse uses, High-Cube Warehouse (Without Cold Storage) uses, and Warehouse uses. Please refer to Appendix 3.1 for details on how land uses have been consolidated.

equipment is assumed to have a horsepower (hp) range of approximately 175 hp to 200 hp. Based on the latest available information from SCAQMD (39); for example, high-cube warehouse projects typically have 3.6 yard trucks per million square feet of building space. For this particular Project, based on the maximum square footage of warehouse, industrial, and manufacturing building space permitted by the proposed Specific Plan, on-site modeled operational equipment includes 200 hp, diesel powered yard tractors operating at 4 hours a day for 365 days of the year. A summary of onsite operational equipment assumptions by land use is provided in Table 3-5.

TABLE 3-5: ONSITE EQUIPMENT

Phase	Square Footage	Equipment	Number
Unrefrigerated Warehouse No-Rail	907,300 SF	Yard Tractors	3
Refrigerated Warehouse No-Rail	387,500 SF	Yard Tractors	1
General Light Industrial	54,600 SF	Yard Tractors	0.5
Manufacturing	102,000 SF	Yard Tractors	0.5
		Total Equipment	5

3.5.5 OPERATIONAL EMISSIONS SUMMARY

Operational-source emissions are summarized on Table 3-6. Detailed operational model outputs are presented in Appendix 3.3 and 3.5. As indicated, the Project will exceed the thresholds of significance for emissions of VOCs and NO_X. It is important to note that the majority of VOC emissions are derived from consumer products. For analytical purposes, consumer products include cleaning supplies, aerosols, and other industrial consumer products (1). As such, the Project Applicant cannot meaningfully control the use of consumer products by future building users via mitigation; thus, VOC emissions are considered significant and unavoidable as no feasible mitigation measure exists that would reduce this impact to less than significant levels. Additionally, over 92 percent of the Project's NO_x emissions are derived from vehicle usage. Since neither the Project Applicant nor the City of Irwindale have regulatory authority to control tailpipe emissions, no feasible mitigation measures exist that would reduce NO_x emissions to levels that are less-than-significant, thus NO_x emissions are considered significant and unavoidable.

TABLE 3-6: SUMMARY OF OPERATIONAL EMISSIONS

Operational Activities – Summer Scenario	Emissions (pounds per day)					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Source	34.77	1.49E-03	0.16	1.00E-05	5.70E-04	5.70E-04
Energy Source	0.33	3.01	2.53	0.02	0.23	0.23
Mobile (Trucks)	11.30	319.21	88.44	1.17	37.74	11.99
Mobile (Passenger Cars)	6.40	9.65	142.67	0.51	57.83	15.58
Mobile (Commercial Uses)	27.16	113.45	209.15	0.60	41.75	11.58
On-Site Equipment	0.73	8.93	3.90	0.02	0.29	0.27
Total Maximum Daily Emissions	**80.70**	**454.27**	**446.86**	**2.31**	**137.85**	**39.64**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**
Operational Activities – Winter Scenario	**Emissions (pounds per day)**					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Source	34.77	1.49E-03	0.16	1.00E-05	5.70E-04	5.70E-04
Energy Source	0.33	3.01	2.53	0.02	0.23	0.23
Mobile (Trucks)	11.41	328.70	90.14	1.16	37.75	12.00
Mobile (Passenger Cars)	5.88	10.51	126.68	0.48	57.83	15.58
Mobile (Commercial Uses)	25.69	113.40	210.19	0.56	41.76	11.58
On-Site Equipment	0.73	8.93	3.90	0.02	0.29	0.27
Total Maximum Daily Emissions	**78.82**	**464.56**	**433.60**	**2.23**	**137.86**	**39.66**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

3.6 LOCALIZED SIGNIFICANCE- CONSTRUCTION ACTIVITY

BACKGROUND ON LOCALIZED SIGNIFICANCE THRESHOLD (LST) DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (Methodology) (24). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and NO_2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$; both of which are non-attainment pollutants.

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (40).

EMISSIONS CONSIDERED

SCAQMD's Methodology clearly states that "off-site mobile emissions from the Project should NOT be included in the emissions compared to LSTs (41)." Therefore, for purposes of the construction LST analysis only emissions included in the CalEEMod "on-site" emissions outputs were considered.

APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate Source Receptor Area (SRA) for the LST is East San Gabriel Valley monitoring station (SRA 9). LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter ≤ 10 microns (PM_{10}), and particulate matter ≤ 2.5 microns ($PM_{2.5}$). The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- The CalEEMod model is utilized to determine the maximum daily on-site emissions that will occur during construction activity.
- The SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds (42) is used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod.
- If the total acreage disturbed is less than or equal to five acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact (the SCAQMD recommends that Projects exceeding the screening look-up tables undergo dispersion modeling to determine actual impacts). The look-up tables establish a maximum daily emissions threshold in pounds per day that can be compared to CalEEMod outputs.

MAXIMUM DAILY DISTURBED-ACREAGE

Table 3-7 is used to determine the maximum daily disturbed-acreage during demolition and site grading for purposes of modeling localized emissions. Based on Table 3-7, the proposed Project could actively disturb approximately 3.5 acres per day during site preparation activities and 4 acres per day during the grading phase of construction.

TABLE 3-7: MAXIMUM DAILY DISTURBED-ACREAGE

Construction Phase	Equipment Type	Equipment Quantity	Acres graded per 8-hour day	Operating Hours per Day	Acres graded per day
Site Preparation	Crawler Tractors	4	0.5	8	2
	Graders	0	0.5	8	0
	Rubber Tired Dozers	3	0.5	8	1.5
	Scrapers	0	1	8	0
Total acres disturbed per day during Site Preparation					3.5
Construction Phase	**Equipment Type**	**Equipment Quantity**	**Acres graded per 8-hour day**	**Operating Hours per Day**	**Acres graded per day**
Grading	Crawler Tractors	2	0.5	8	1
	Graders	1	0.5	8	0.5
	Rubber Tired Dozers	1	0.5	8	0.5
	Scrapers	2	1	8	2
Total acres disturbed per day during Grading					4

Sensitive Receptors

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors"; they are also known to be locations where an individual can remain for 24 hours.

Sensitive receptors in the Project study include existing residential homes and school uses, as described below and as shown on Exhibit 3-A.

R1: Located approximately 4,245 feet west of the Project site, R1 represents an existing residential community north of Arrow Highway/Live Oak Avenue.

R2: Location R2 represents existing residential homes located approximately 1,900 feet north of the Project site near existing industrial uses.

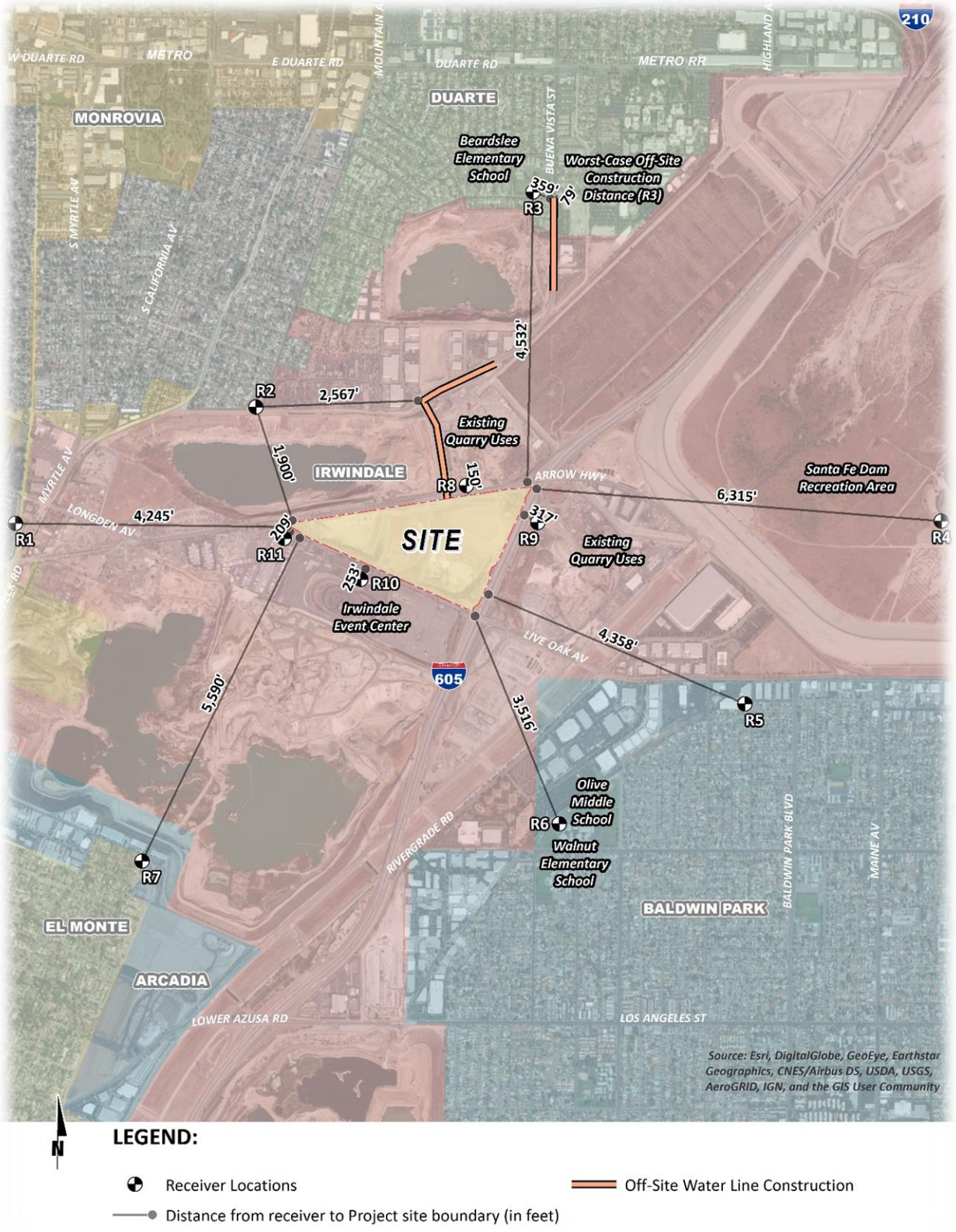
R3: Location R3 represents an existing residential homes and Beardslee Elementary School located roughly 4,532 feet north of the Project site.

R4: Location R4 represents the existing Santa Fe Dam Recreation Area located roughly 6,315 feet east of the Project site.

R5: Location R5 represents existing residential homes located roughly 4,358 feet southeast of the Project site, south of Live Oak Avenue.

R6: Location R6 represents Olive Middle School, Walnut Elementary School, and existing residential homes located approximately 3,516 feet southeast of the Project site.

EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS



R7: Located approximately 5,590 feet south of the Project site, R7 represents existing residential homes.

In terms of non-sensitive receptors, the following locations were analyzed as representative receptor locations nearest the Project site.

R8: Location R8 represents existing quarry uses north of the Project site at roughly 150 feet across Arrow Highway.

R9: Location R9 represents existing quarry uses located roughly 317 feet east of the Project site across I-605.

R10: Location R10 represents the Irwindale Event Center located approximately 253 feet south of the Project site.

R11: Located approximately 209 feet southwest of the Project site, R11 represents existing industrial uses, west of the Irwindale Event Center.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual and cumulatively significant impact. Although these residential uses are considered the nearest sensitive receptors to the Project site, a distance of 500 meters will be used as a conservative measure.

CONSTRUCTION-SOURCE EMISSIONS LST ANALYSIS

Since the total acreage disturbed is less than five acres per day for site preparation activities, and the grading activities, the SCAQMD's screening look-up tables are utilized in determining impacts. It should be noted that since the look-up tables identifies thresholds at only 1 acre, 2 acres, and 5 acres, linear regression has been utilized, consistent with SCAQMD guidance, in order to interpolate the threshold values for the other disturbed acreage not identified. As previously noted, a 500-meter receptor distance is utilized to determine the LSTs for emissions of CO, NO_2, PM_{10}, and $PM_{2.5}$.

Table 3-8 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Outputs from the model runs for construction LSTs are provided in Appendix 3.2. It should be noted that credit for BACMs AQ-1 and AQ-2 has been taken. Under the assumed scenarios, emissions resulting from the Project construction would not exceed criteria pollutant thresholds established by the SCAQMD for emissions for any criteria pollutant. Therefore, a less than significant impact would occur, and no mitigation is required.

Although off-site infrastructure and utilities construction would occur in closer proximity to existing residences, any localized impacts associated with off-site utility and infrastructure improvements would occur in limited daily disturbance areas due to physical constraints and would therefore not result in any localized impacts beyond those identified for peak site preparation and grading activities.

TABLE 3-8: LOCALIZED SIGNIFICANCE SUMMARY OF CONSTRUCTION

On-Site Site Preparation Emissions	Emissions (pounds per day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**68.11**	**23.14**	**10.84**	**6.69**
SCAQMD Localized Threshold	549	23,826	218	108
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
On-Site Grading Emissions	**Emissions (pounds per day)**			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**65.79**	**33.92**	**6.47**	**3.91**
SCAQMD Localized Threshold	560	24,403	222	111
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

3.7 LOCALIZED SIGNIFICANCE – LONG-TERM OPERATIONAL ACTIVITY

The Project allows for a maximum of up to 1,550,000 square feet of development. However, for the purposes of this analysis, and as a conservative measure, the SCAQMD look-up tables of 5-acres are used to determine localized significance thresholds for operational activity. Although the project site is greater than 5 acres, the LST lookup tables can be used as a conservative measure to show that even if the daily emissions from all project operations were emitted on a 5-acre site (and therefore concentrated over a smaller area which would result in greater site adjacent concentrations), if the impacts are less than significant, then a more detailed evaluation is not necessary. Table 3-9 shows the calculated emissions for the Project's operational activities compared with the applicable LSTs. The LST analysis includes on-site sources only; however, the CalEEMod™ model outputs do not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 3-9represent all on-site Project-related stationary (area) sources and five percent (5%) of the Project-related mobile sources. Considering that the weighted trip length used in CalEEMod™ for the Project is approximately 16.6 miles for passenger cars and 50 miles for trucks, 5% of this total would represent an on-site travel distance of approximately 0.83 mile/ 4,383 feet for each passenger car and approximately 2.50 miles/ 13,200 feet for each truck. Thus the 5% assumption is conservative and would tend to overstate the actual impact. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

As previously noted, a 500-meter receptor distance is utilized to determine the LSTs for emissions of CO, NO_2, PM_{10}, and $PM_{2.5}$.

LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY

Applicable localized thresholds from the SCAQMD's mass-rate LST lookup tables for a five-acre project site are as follows:

- NO_x: 584 pounds per day;
- CO: 25,558 pounds per day.

- PM_{10}: 55 pounds per day; or
- $PM_{2.5}$: 28 pounds per day.

If emissions exceed the applicable LSTs for the Project site, then additional dispersion modeling needs to be conducted to determine if there is an actual exceedance of the AAQS.

TABLE 3-9: LOCALIZED SIGNIFICANCE OPERATIONS SUMMARY

Peak Operational Emissions	Emissions (pounds per day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**25.58**	**24.90**	**7.11**	**2.20**
SCAQMD Localized Threshold	584	25,558	55	28
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

As shown on Table 3-9 operational emissions will not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the Project will have a less than significant localized impact during operational activity.

3.8 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific carbon monoxide (CO) "hot spots" is not needed to reach this conclusion.

An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SCAB was designated nonattainment under the California AAQS and National AAQS for CO (43).

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment, as previously noted in Table 2-2. Also, CO concentrations in the Project vicinity have steadily declined, as indicated by historical emissions data presented previously at Table 2-3.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 3-10.

TABLE 3-10: CO MODEL RESULTS

Intersection Location	Carbon Monoxide Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire-Veteran	4.6	3.5	4.2
Sunset-Highland	4	4.5	3.9
La Cienega-Century	3.7	3.1	5.8
Long Beach-Imperial	3	3.1	9.3

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 9.3 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (43). In contrast, the ambient 8-hr CO concentration within the Project study area is estimated at 1.4 ppm—1.6 ppm (please refer to previous Table 2-3). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (3).

Traffic volumes generating the CO concentrations for the "hot spot" analysis, shown on Table 3-11. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).[6] At buildout of the Project, the highest average daily trips on a segment of road would be 54,900 daily trips on Live Oak Avenue (West) and Arrow Highway and Maine Avenue and Arrow Highway which is lower than the highest daily traffic volumes generated at the busiest intersection in the CO "hot spot" analysis (3).

6 Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

TABLE 3-11: TRAFFIC VOLUMES FOR INTERSECTIONS EVALUATED IN AQMP

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire-Veteran	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset-Highland	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega-Century	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach-Imperial	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

The proposed Project considered herein would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study, or based on representative BAAQMD CO threshold considerations, as shown on Table 3-12. Therefore, CO "hot spots" are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

TABLE 3-12: PROJECT PEAK HOUR TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Live Oak Av./Arrow Hwy. (West)	1,550/1,479	0/0	1,415/3,014	2,351/1,644	5,316/6,137
I-605 SB Off Ramps/Arrow Hwy.	0/0	1,704/871	1,010/2,271	2,066/915	4,780/4,057
Arrow Hwy./Live Oak Av. (East)	0/0	523/1,520	1,111/1,670	3,626/1,690	5,260/4,881
Maine Av./Arrow Hwy.	886/406	0/0	1,516/2,967	3,005/1,508	5,409/4,880

Source: The Park @ Live Oak Traffic Impact Analysis (Urban Crossroads, Inc., 2018).

3.9 AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new

and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (27). Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 RTP/SCS and updated emission inventory methodologies for various source categories (44). The Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (30). These indicators are discussed below:

- Consistency Criterion No. 1: The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Construction Impacts

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if localized significance thresholds (LSTs) or regional significance thresholds were exceeded. The Project would not exceed the applicable LST thresholds or regional significance thresholds for construction activity. Therefore, the Project would not conflict with the AQMP according to this criterion.

Operational Impacts

The Project regional analysis demonstrates that Project operational-source emissions would exceed applicable thresholds for daily NOx and VOC emissions, and would therefore contribute to violations of the CAAQS and NAAQS.

On the basis of the preceding discussion, the Project is determined to conflict with the first criterion.

- Consistency Criterion No. 2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

Overview

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the Southern California Association of Governments (SCAG), which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the City of Irwindale General Plan is considered to be consistent with the AQMP.

Construction Impacts

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance.

Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

Operational Impacts

The City of Irwindale General Plan designates the Project site as "Regional Commercial" land use. The Regional Commercial land use is intended to encourage a mix of commercial, office professional, and light manufacturing (45). The Project proposes a General Plan Amendment (No.01-2017) that would change the land use designation from "Regional Commercial" to "Commercial/Industrial" which will allow for both industrial and commercial development.

The Project will require a Zone Change (No.01-2017) from "Heavy Manufacturing (M-2)" and "Quarry Overlay Zone" to "The Park @ Live Oak Specific Plan". This revised specific plan designation would allow for the Project site to be developed in accordance with the uses and development standards set forth in the proposed The Park @ Live Oak Specific Plan (46) .

The proposed Project consists of applications for a General Plan Amendment (GPA) No. 01-2017 and Zone Change (No.01-2017) to establish a specific-planned, commercial/industrial usage on an approximately a 78.32-acre site. The Project proposes a maximum of 1,550,000 square feet (s.f.) of building space, including up to 1,451,400 s.f. of Industrial/Business Park uses and up to 98,600 s.f. of Commercial uses. As such, the Project has the potential to exceed the growth assumptions of the Irwindale General Plan and consequently the AQMP.

AQMP Consistency Conclusion

The Project would have the potential to cause NAAQS or CAAQS violations. The Project is not consistent with the current general plan and zoning designation. The Project requires a General Plan Amendment(GPA) to accommodate the proposed industrial uses which would intensify the underlying land use designation. Therefore, the Project would have the potential to conflict with the AQMP.

3.10 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors.

Results of the LST analysis indicate that, with application of mitigation, the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

3.11 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The landfilling activity that occurred on the site consistent of inert debris, which is not a source of odor. The Project is a proposed Specific Plan entitlement, and no buildings are proposed at this time. However, based on a review of the uses that would be permitted or conditionally permitted to occur on the Project site based on the Specific Plan's permitted uses table, the following uses have the potential to generate odor: gas station, manufacturing, bakeries, distributing plant (up to 250,000 gallons) dry cleaners, restaurants, and plastic fabrication and molding. Although these uses have the potential to generate odors, all future uses within the Specific Plan would be required to comply with SCAQMD Rule 402 which would ensure that odor nuisances would not occur (2).

Additionally, a potential source of odors generated by the Project would include disposal of miscellaneous commercial refuse. Consistent with City requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations, thereby precluding substantial generation of odors due to temporary holding of refuse on-site.

3.12 CUMULATIVE IMPACTS

The Project area is designated as an extreme non-attainment area for ozone, and a non-attainment area for PM_{10}, $PM_{2.5}$, and lead.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (47). In this report the AQMD clearly states (Page D-3):

"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should

be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that, after implementation of applicable best available control measures, Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

Operational Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that Project operational-source air pollutant emissions has the potential to result in exceedances of regional thresholds. Therefore, Project operational-source emissions are considered significant and unavoidable.

4 FINDINGS & CONCLUSIONS

CONSTRUCTION-SOURCE EMISSIONS

REGIONAL IMPACTS

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutants. Therefore, a less than significant impact would occur for Project-related construction-source emissions.

LOCALIZED IMPACTS

For localized emissions, the Project would not exceed the SCAQMD's localized significance threshold for any criteria pollutant. Therefore, a less than significant impact would occur.

ODORS

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

OPERATIONAL-SOURCE EMISSIONS

REGIONAL IMPACTS

For regional emissions, the Project has the potential to exceed the threshold of significance for emissions of both VOCs and NO_x. It is important to note that the majority of VOC emissions are derived from consumer products. For analytical purposes, consumer products include cleaning supplies, aerosols, and other industrial consumer products (1). As such, the Project cannot meaningfully control consumer products via mitigation thus, VOC emissions are considered significant and unavoidable as no feasible mitigation measure exists that would reduce this impact to less than significant levels. Additionally, over 92 percent of the Project's NO_x emissions are derived from vehicle usage. Since the Project does not have regulatory authority to control tailpipe emissions, no feasible mitigation measures exist that would reduce NO_x emissions to levels that are less-than-significant, thus these emissions are considered significant and unavoidable.

LOCALIZED IMPACTS

For localized emissions, the Project would not exceed the numerical thresholds established by the SCAQMD for any criteria pollutants. The proposed Project would not result in a significant CO "hotspot" as a result of Project related traffic during ongoing operations.

Project operational-source emissions would have the potential to conflict with the applicable AQMP.

ODORS

Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project is a proposed Specific Plan entitlement, and no buildings are proposed at this time. However, based on a review of the uses that would be permitted or conditionally permitted to occur on the Project site based on the Specific Plan's permitted uses table, the following uses have the potential to generate odor: gas station, manufacturing, bakeries, distributing plant (up to 250,000 gallons) dry cleaners, restaurants, and plastic fabrication and molding. Although these uses have the potential to generate odors, all future uses within the Specific Plan would be required to comply with SCAQMD Rule 402 which would ensure that odor nuisances would not occur (2). Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Consistent with City requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant.

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5 CERTIFICATION

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed The Park @ Live Oak Project. The information contained in this air quality impact report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5987.

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Master of Science in Environmental Studies
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AEP – Association of Environmental Planners
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PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007
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Air Dispersion Modeling – Lakes Environmental • June, 2006

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APPENDIX 2.1:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

TABLE 2-3

National Ambient Air Quality Standards (NAAQS) Attainment Status - South Coast Air Basin

Criteria Pollutant	Averaging Time	Designation[a]	Attainment Date[b]
Ozone (O_3)	(1979) **1-Hour** (0.12 ppm)[c]	Nonattainment ("extreme")	2/26/2023 (revised deadline)
	(2015) **8-Hour** (0.070 ppm)[d]	Pending – Expect Nonattainment ("extreme")	Pending (beyond 2032)
	(2008) **8-Hour** (0.075 ppm)[d]	Nonattainment ("extreme")	7/20/2032
	(1997) **8-Hour** (0.08 ppm)[d]	Nonattainment ("extreme")	6/15/2024
PM2.5[e]	(2006) **24-Hour** (35 µg/m^3)	Nonattainment ("serious")	12/31/2019
	(2012) **Annual** (12.0 µg/m^3)	Nonattainment ("moderate")	12/31/2021
	(1997) **Annual** (15.0 µg/m^3)	Attainment (final determination pending)	4/5/2015 (attained 2013)
PM10[f]	(1987) **24-hour** (150 µg/m^3)	Attainment (Maintenance)	7/26/2013 (attained)
Lead (Pb)[g]	(2008) **3-Months Rolling** (0.15 µg/m^3)	Nonattainment (Partial) (Attainment determination to be requested)	12/31/2015
CO	(1971) **1-Hour** (35 ppm)	Attainment (Maintenance)	6/11/2007 (attained)
	(1971) **8-Hour** (9 ppm)	Attainment (Maintenance)	6/11/2007 (attained)
NO_2[h]	(2010) **1-Hour** (100 ppb)	Unclassifiable/Attainment	N/A (attained)
	(1971) **Annual** (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)
SO_2[i]	(2010) **1-Hour** (75 ppb)	Designations Pending (expect Unclassifiable/Attainment)	N/A (attained)
	(1971) **24-Hour** (0.14 ppm) (1971) **Annual** (0.03 ppm)	Unclassifiable/Attainment	3/19/1979 (attained)

a) U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable

b) A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for an attainment demonstration

c) The 1979 1-hour ozone NAAQS (0.12 ppm) was revoked, effective 6/15/05 ; however, the Basin has not attained this standard and therefore has some continuing obligations with respect to the revoked standard; original attainment date was 11/15/2010; the revised attainment date is 2/6/23

d) The 2008 8-hour ozone NAAQS (0.075 ppm) was revised to 0.070 ppm, effective 12/28/15 with classifications and implementation goals to be finalized by 10/1/17; the 1997 8-hour ozone NAAQS (0.08 ppm) was revoked in the 2008 ozone NAAQS implementation rule, effective 4/6/15; there are continuing obligations under the revoked 1997 and revised 2008 ozone NAAQS until they are attained

e) The attainment deadline for the 2006 24-hour PM2.5 NAAQS was 12/31/15 for the former "moderate" classification; U.S.EPA approved reclassification to "serious," effective 2/12/16 with an attainment deadline of 12/31/2019; the 2012 (proposal year) annual PM2.5 NAAQS was revised on 1/15/13, effective 3/18/13, from 15 to 12 µg/m^3; new annual designations were final 1/15/15, effective 4/15/15; on July 25, 2016 U.S. EPA finalized a determination that the Basin attained the 1997 annual (15.0 µg/m^3) and 24-hour PM2.5 (65 µg/m^3) NAAQS, effective August 24, 2016

f) The annual PM10 NAAQS was revoked, effective 12/18/06; the 24-hour PM10 NAAQS deadline was 12/31/2006; the Basin's Attainment Re-designation Request and PM10 Maintenance Plan was approved by U.S. EPA on 6/26/13, effective 7/26/13

g) Partial Nonattainment designation – Los Angeles County portion of the Basin only for near-source monitors; expect to remain in attainment based on current monitoring data; attainment re-designation request pending

h) New 1-hour NO_2 NAAQS became effective 8/2/10, with attainment designations 1/20/12; annual NO_2 NAAQS retained

i) The 1971 annual and 24-hour SO2 NAAQS were revoked, effective 8/23/10; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO2 1-hour NAAQS; final area designations expected by 12/31/20 due to new source-specific monitoring requirements; Basin expected to be in attainment due to ongoing clean data

TABLE 2-4

National Ambient Air Quality Standards (NAAQS) Attainment Status
Coachella Valley Portion of the Salton Sea Air Basin

Criteria Pollutant	Averaging Time	Designation[a]	Attainment Date[b]
Ozone (O_3)	(1979) **1-Hour** (0.12 ppm)[c]	Attainment	11/15/2007 (attained 12/31/2013)
	(2015) **8-Hour** (0.070 ppm)[d]	Pending – Expect Nonattainment (Severe)	Pending
	(2008) **8-Hour** (0.075 ppm)[d]	Nonattainment (Severe-15)	7/20/2027
	(1997) **8-Hour** (0.08 ppm)[d]	Nonattainment (Severe-15)	6/15/2019
PM2.5[e]	(2006) **24-Hour** (35 µg/m^3)	Unclassifiable/Attainment	N/A (attained)
	(2012) **Annual** (12.0 µg/m^3)	Unclassifiable/Attainment	N/A (attained)
	(1997) **Annual** (15.0 µg/m^3)	Unclassifiable/Attainment	N/A (attained)
PM10[f]	(1987) **24-hour** (150 µg/m^3)	Nonattainment ("serious")	12/31/2006
Lead (Pb)	(2008) **3-Months Rolling** (0.15 µg/m^3)	Unclassifiable/Attainment	Unclassifiable/ Attainment
CO	(1971) **1-Hour** (35 ppm)	Unclassifiable/Attainment	N/A (attained)
	(1971) **8-Hour** (9 ppm)	Unclassifiable/Attainment	N/A (attained)
NO_2[g]	(2010) **1-Hour** (100 ppb)	Unclassifiable/Attainment	N/A (attained)
	(1971) **Annual** (0.053 ppm)	Unclassifiable/Attainment	N/A (attained)
SO_2[h]	(2010) **1-Hour** (75 ppb)	Designations Pending	N/A
	(1971) **24-Hour** (0.14 ppm) (1971) **Annual** (0.03 ppm)	Unclassifiable/Attainment	Unclassifiable/ Attainment

a) U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable

b) A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for an attainment demonstration

c) The 1979 1-hour ozone NAAQS (0.12 ppm) was revoked, effective 6/15/05; the Southeast Desert Modified Air Quality Management Area, including the Coachella Valley, had not timely attained this standard by the 11/15/07 "severe-17" deadline, based on 2005-2007 data; on 8/25/14, U.S. EPA proposed a clean data finding based on 2011–2013 data and a determination of attainment for the former 1-hour ozone NAAQS for the Southeast Desert nonattainment area; this rule was finalized by U.S. EPA on 4/15/15, effective 5/15/15, that included preliminary 2014 data

d) The 2008 8-hour ozone NAAQS (0.075 ppm) was revised to 0.070 ppm, effective 12/28/15 with classifications and implementation goals to be finalized by 10/1/17; the 1997 8-hour ozone NAAQS (0.08 ppm) was revoked in the 2008 ozone NAAQS implementation rule, effective 4/6/15; there are continuing obligations under the 1997 and 2008 ozone NAAQS until they are attained

e) The annual PM2.5 standard was revised on 1/15/13, effective 3/18/13, from 15 to 12 µg/m^3

f) The annual PM10 standard was revoked, effective 12/18/06; the 24-hour PM10 NAAQS attainment deadline was 12/31/2006; the Coachella Valley Attainment Re-designation Request and PM10 Maintenance Plan was postponed by U.S. EPA pending additional monitoring and analysis in the southeastern Coachella Valley

g) New 1-hour NO_2 NAAQS became effective 8/2/10; attainment designations 1/20/12; annual NO_2 NAAQS retained

h) The 1971 Annual and 24-hour SO_2 NAAQS were revoked, effective 8/23/10; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO_2 1-hour standard; final area designations expected by 12/31/2020 with SSAB expected to be designated Unclassifiable/Attainment

The current status of CAAQS attainment for the pollutants with State standards is presented in Table 2-5 for the Basin and the Riverside County portion of the SSAB (Coachella Valley).

TABLE 2-5

California Ambient Air Quality Standards (CAAQS) Attainment Status
South Coast Air Basin and Coachella Valley portion of Salton Sea Air Basin

Pollutant	Averaging Time and Level[b]	Designation[a]	
		South Coast Air Basin	Coachella Valley
Ozone (O_3)	**1-Hour** (0.09 ppm)[c]	Nonattainment	Nonattainment
	8-Hour (0.070 ppm)[d]	Nonattainment	Nonattainment
PM2.5	**Annual** (12.0 µg/m^3)	Nonattainment	Attainment
PM10	**24-Hour** (50 µg/m^3)	Nonattainment	Nonattainment
	Annual (20 µg/m^3)	Nonattainment	Nonattainment
Lead (Pb)	**30-Day Average** (1.5 µg/m^3)	Attainment	Attainment
CO	**1-Hour** (20 ppm)	Attainment	Attainment
	8-Hour (9.0 ppm)	Attainment	Attainment
NO_2	**1-Hour** (0.18 ppm)	Attainment	Attainment
	Annual (0.030 ppm)	Attainment	Attainment
SO_2	**1-Hour** (0.25 ppm)	Attainment	Attainment
	24-Hour (0.04 ppm)	Attainment	Attainment
Sulfates	**24-Hour** (25 µg/m^3)	Attainment	Attainment
H_2S[c]	**1-Hour** (0.03 ppm)	Unclassified	Unclassified [c)]

a) CA State designations shown were updated by CARB in 2016, based on the 2013–2015 3-year period; stated designations are based on a 3-year data period after consideration of outliers and exceptional events; Source: http://www.arb.ca.gov/desig/statedesig.htm#current

b) CA State standards, or CAAQS, for ozone, CO, SO_2, NO_2, PM10 and PM2.5 are values not to be exceeded; lead, sulfates, and H_2S standards are values not to be equaled or exceeded; CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations

c) SCAQMD began monitoring H_2S in the southeastern Coachella Valley in November 2013 due to odor events related to the Salton Sea; three full years of data are not yet available for a State designation, but nonattainment is anticipated for the H_2S CAAQS in at least part of the Coachella Valley

The 1979 federal 1-hour ozone standard (0.12 ppm) was revoked by the U.S. EPA and replaced by the 8-hour average ozone standard (0.08 ppm), effective June 15, 2005. However, the Basin and the former Southeast Desert Modified Air Quality Management Area (which included the Coachella Valley) had not attained the 1-hour federal ozone NAAQS by the attainment dates in 2010 and 2007, respectively, and, therefore, had continuing obligations under the former standard. On August 25, 2014, U.S. EPA

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APPENDIX 3.1:

LAND USES ASSUMPTIONS FOR CALEEMOD ANALYSIS

The Project proposes 1,451,000 square feet of industrial uses and 102,200 square feet of commercial uses. For purposes of analysis, Project industrial land uses will be categorized between the following land use subtypes: Unrefrigerated Warehouse No-Rail, Refrigerated Warehouse No-Rail, General Light Industrial, and Manufacturing. 25,000 square feet High-Cube Fulfillment Center Warehouse, 630,900 square feet High-Cube Transload and Short-Term Storage Warehouse, and 251,400 square feet Warehouse uses will be combined into 907,300 square feet Unrefrigerated Warehouse No-Rail. The Project proposes 387,500 square feet of High-Cube Warehouse (With Cold Storage)[1], 54,600 square feet General Light Industrial, and 102,000 square feet Manufacturing uses.

Project Industrial Land Use	Size	Metric
Unrefrigerated Warehouse No-Rail		
High-Cube Fulfillment Center Warehouse	25.00	TSF
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage)	412.50	TSF
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage	218.40	TSF
Warehouse	60.00	TSF
Warehouse	191.40	TSF
Total Unrefrigerated Warehouse No-Rail (TSF)	*907.30*	*TSF*
Refrigerated Warehouse No-Rail		
Refrigerated Warehouse No-Rail	387.50	TSF
Total Refrigerated Warehouse No-Rail (TSF)	*387.50*	*TSF*
General Light Industrial		
General Light Industrial	54.60	TSF
Total General Light Industrial (TSF)	*54.60*	*TSF*
Manufacturing		
Manufacturing	102.00	TSF
Total Manufacturing (TSF)	*102.00*	*TSF*
Total Industrial Land Uses (TSF)	***1,451.40***	***TSF***

[1] It should be noted that up to 387,500 square feet of High-Cube Warehouse (With Cold Storage) may be developed in lieu of 387,500 square feet of High-Cube Fulfillment Center Warehouse use or a combination of High-Cube Fulfillment Center Warehouse, Warehousing, and/or Manufacturing uses. Please refer to Appendix 3.2 for a more detailed explanation on how Project land uses have been analyzed in the air quality modeling.

Commercial land uses will be categorized between the following land use subtypes: Fast-Food Restaurant with Drive-Through Window, Fast-Food Restaurant without Drive-Through Window, Commercial Retail, and Gas Station with Convenience Market. Although the Project includes Fast-Food Restaurant without Drive-Through Window land use, CalEEMod does not provide a land use a separate subtype category for Coffee Shop with Drive-Through Window. As such, all Fast-Food Restaurant land uses will be combined under the Fast-Food Restaurant with Drive-Through and the Coffee Shop with Drive-Through Window will be analyzed under the Fast-Food Restaurant without Drive-Through Window subtype. Thus, for purposes of analysis, Commercial land uses will be modeled as shown below:

Project Commercial Land Use	Size	Metric
Fast-Food Restaurant with Drive-Through Window		
Fast-Food Restaurant with Drive-Through Window	8.70	TSF
Fast-Food Restaurant without Drive-Through Window	12.00	TSF
Fast-Food Restaurant without Drive-Through Window	7.00	TSF
Total Fast-Food Restaurant with Drive-Through Window (TSF)	*27.70*	*TSF*
Fast-Food Restaurant without Drive-Through Window		
Coffee-Shop with Drive-Through Window	3.00	TSF
Total Fast-Food Restaurant without Drive-Through Window (TSF)	*3.00*	*TSF*
Commercial Retail		
Commercial Retail	12.00	TSF
Commercial Retail	10.50	TSF
Commercial Retail	47.00	TSF
Total Commercial Retail (TSF)	*69.50*	*TSF*
Gas Station with Convenience Market		
Gas Station with Convenience Market	8.00	VFP
Total Gas Station with Convenience Market (TSF)[2]	*2.00*	*TSF*
Total Commercial (TSF)	***102.20***	***TSF***

It should be noted that Unrefrigerated Warehouse No-Rail and Fast-Food Restaurant with Drive-Through Window trips have been weighted to remain consistent with trips analyzed in the TIA.

[2] Size of Gas Station has been determined by looking at the daily trips and ITE definition. The Gas Station would be approximately 1,100 square feet. For purposes of analysis, 2,000 square feet will be used.

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APPENDIX 3.2:

CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS

The Park @ Live Oak (Construction - Unmitigated)

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	907.30	1000sqft	43.62	907,300.00	0
Refrigerated Warehouse-No Rail	387.50	1000sqft	18.49	387,500.00	0
General Light Industry	54.60	1000sqft	2.62	54,600.00	0
Manufacturing	102.00	1000sqft	4.90	102,000.00	0
Fast Food Restaurant with Drive Thru	27.70	1000sqft	1.34	27,700.00	0
Fast Food Restaurant w/o Drive Thru	3.00	1000sqft	0.15	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	0.06	1,129.40	0
Regional Shopping Center	69.50	1000sqft	3.35	69,500.00	0
Other Asphalt Surfaces	3.79	Acre	3.79	165,092.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Lot Acreage is 78.32.

Construction Phase - Construction Schedule adjusted as per direction provided by the Client.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment -

Off-road Equipment - Hours are based on an 8-hour workday.

Grading -

Architectural Coating - Rule 1113.

Vehicle Trips - Construction Run Only.

Energy Use - Construction Run Only.

Water And Wastewater - Construction Run Only.

Solid Waste - Construction Run Only.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
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tblConstructionPhase	NumDays	1,550.00	230.00
tblConstructionPhase	NumDays	155.00	110.00
tblConstructionPhase	NumDays	110.00	75.00
tblConstructionPhase	NumDays	60.00	40.00
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tblConstructionPhase	PhaseEndDate	8/21/2026	12/11/2020

tblConstructionPhase	PhaseEndDate	9/11/2020	1/24/2020
tblConstructionPhase	PhaseEndDate	1/22/2027	12/18/2020
tblConstructionPhase	PhaseEndDate	2/7/2020	8/23/2019
tblConstructionPhase	PhaseStartDate	1/23/2027	4/11/2020
tblConstructionPhase	PhaseStartDate	9/12/2020	1/25/2020
tblConstructionPhase	PhaseStartDate	2/8/2020	8/24/2019
tblConstructionPhase	PhaseStartDate	8/22/2026	9/5/2020
tblConstructionPhase	PhaseStartDate	11/16/2019	7/1/2019
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tblEnergyUse	LightingElect	2.73	0.00
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tblEnergyUse	NT24NG	187.78	0.00

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tblVehicleTrips	CC_TL	8.40	0.00

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tblWater	IndoorWaterUseRate	209,813,125.00	0.00
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tblWater	OutdoorWaterUseRate	536,673.44	0.00
tblWater	OutdoorWaterUseRate	3,155,250.47	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	5.9342	68.1775	34.7270	0.0737	20.3885	2.9702	23.3587	10.2131	2.7326	12.9457	0.0000	7,296.0945	7,296.0945	2.2454	0.0000	7,352.2297
2020	50.5536	85.3902	75.6550	0.2339	11.5518	2.7584	14.3102	3.7703	2.5778	6.0419	0.0000	23,540.4346	23,540.4346	2.6585	0.0000	23,606.8958
Maximum	**50.5536**	**85.3902**	**75.6550**	**0.2339**	**20.3885**	**2.9702**	**23.3587**	**10.2131**	**2.7326**	**12.9457**	**0.0000**	**23,540.4346**	**23,540.4346**	**2.6585**	**0.0000**	**23,606.8958**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	5.9342	68.1775	34.7270	0.0737	8.0742	2.9702	11.0445	4.0156	2.7326	6.7483	0.0000	7,296.0945	7,296.0945	2.2454	0.0000	7,352.2297
2020	50.5536	85.3902	75.6550	0.2339	11.5518	2.7584	14.3102	3.1045	2.5778	5.6823	0.0000	23,540.4346	23,540.4346	2.6585	0.0000	23,606.8958
Maximum	**50.5536**	**85.3902**	**75.6550**	**0.2339**	**11.5518**	**2.9702**	**14.3102**	**4.0156**	**2.7326**	**6.7483**	**0.0000**	**23,540.4346**	**23,540.4346**	**2.6585**	**0.0000**	**23,606.8958**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.55**	**0.00**	**32.69**	**49.08**	**0.00**	**34.53**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**	**0.0000**	**5.8000e-004**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**	**0.0000**	**0.3651**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**	**0.0000**	**5.8000e-004**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**	**0.0000**	**0.3651**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/23/2019	5	40	
2	Grading	Grading	8/24/2019	1/24/2020	5	110	
3	Building Construction	Building Construction	1/25/2020	12/11/2020	5	230	
4	Paving	Paving	9/5/2020	12/18/2020	5	75	
5	Architectural Coating	Architectural Coating	4/11/2020	12/18/2020	5	180	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 385

Acres of Paving: 3.79

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,329,094; Non-Residential Outdoor: 776,365; Striped Parking Area: 9,906 (Architectural Coating – sqft)

OffRoad Equipment

The Park @ Live Oak (Construction - Unmitigated) - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Building Construction	Crawler Tractors	3	8.00	212	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	714.00	282.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	143.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					20.1873	0.0000	20.1873	10.1597	0.0000	10.1597			0.0000			0.0000
Off-Road	5.8382	68.1103	23.1420	0.0569		2.9687	2.9687		2.7312	2.7312		5,636.7406	5,636.7406	1.7834		5,681.3258
Total	**5.8382**	**68.1103**	**23.1420**	**0.0569**	**20.1873**	**2.9687**	**23.1559**	**10.1597**	**2.7312**	**12.8909**		**5,636.7406**	**5,636.7406**	**1.7834**		**5,681.3258**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0960	0.0672	0.7297	2.0000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.8380	198.8380	6.2100e-003		198.9933
Total	**0.0960**	**0.0672**	**0.7297**	**2.0000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.8380**	**198.8380**	**6.2100e-003**		**198.9933**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.8730	0.0000	7.8730	3.9623	0.0000	3.9623			0.0000			0.0000
Off-Road	5.8382	68.1103	23.1420	0.0569		2.9687	2.9687		2.7312	2.7312	0.0000	5,636.7406	5,636.7406	1.7834		5,681.3258
Total	**5.8382**	**68.1103**	**23.1420**	**0.0569**	**7.8730**	**2.9687**	**10.8417**	**3.9623**	**2.7312**	**6.6935**	**0.0000**	**5,636.7406**	**5,636.7406**	**1.7834**		**5,681.3258**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0960	0.0672	0.7297	2.0000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.8380	198.8380	6.2100e-003		198.9933
Total	**0.0960**	**0.0672**	**0.7297**	**2.0000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.8380**	**198.8380**	**6.2100e-003**		**198.9933**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7338	0.0000	9.7338	3.7110	0.0000	3.7110			0.0000			0.0000
Off-Road	5.4905	65.7890	33.9162	0.0714		2.6718	2.6718		2.4581	2.4581		7,075.1634	7,075.1634	2.2385		7,131.1260
Total	**5.4905**	**65.7890**	**33.9162**	**0.0714**	**9.7338**	**2.6718**	**12.4056**	**3.7110**	**2.4581**	**6.1691**		**7,075.1634**	**7,075.1634**	**2.2385**		**7,131.1260**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.1067**	**0.0747**	**0.8108**	**2.2200e-003**	**0.2236**	**1.7400e-003**	**0.2253**	**0.0593**	**1.6000e-003**	**0.0609**		**220.9312**	**220.9312**	**6.9000e-003**		**221.1037**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.7962	0.0000	3.7962	1.4473	0.0000	1.4473			0.0000			0.0000
Off-Road	5.4905	65.7890	33.9162	0.0714		2.6718	2.6718		2.4581	2.4581	0.0000	7,075.1634	7,075.1634	2.2385		7,131.1260
Total	**5.4905**	**65.7890**	**33.9162**	**0.0714**	**3.7962**	**2.6718**	**6.4680**	**1.4473**	**2.4581**	**3.9053**	**0.0000**	**7,075.1634**	**7,075.1634**	**2.2385**		**7,131.1260**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.1067**	**0.0747**	**0.8108**	**2.2200e-003**	**0.2236**	**1.7400e-003**	**0.2253**	**0.0593**	**1.6000e-003**	**0.0609**		**220.9312**	**220.9312**	**6.9000e-003**		**221.1037**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7338	0.0000	9.7338	3.7110	0.0000	3.7110			0.0000			0.0000
Off-Road	5.1856	60.8410	32.3849	0.0714		2.4674	2.4674		2.2700	2.2700		6,920.8611	6,920.8611	2.2384		6,976.8197
Total	**5.1856**	**60.8410**	**32.3849**	**0.0714**	**9.7338**	**2.4674**	**12.2012**	**3.7110**	**2.2700**	**5.9810**		**6,920.8611**	**6,920.8611**	**2.2384**		**6,976.8197**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0987	0.0666	0.7362	2.1500e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		214.0730	214.0730	6.1400e-003		214.2265
Total	**0.0987**	**0.0666**	**0.7362**	**2.1500e-003**	**0.2236**	**1.7000e-003**	**0.2253**	**0.0593**	**1.5600e-003**	**0.0609**		**214.0730**	**214.0730**	**6.1400e-003**		**214.2265**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.7962	0.0000	3.7962	1.4473	0.0000	1.4473			0.0000			0.0000
Off-Road	5.1856	60.8410	32.3849	0.0714		2.4674	2.4674		2.2700	2.2700	0.0000	6,920.8610	6,920.8610	2.2384		6,976.8197
Total	**5.1856**	**60.8410**	**32.3849**	**0.0714**	**3.7962**	**2.4674**	**6.2636**	**1.4473**	**2.2700**	**3.7173**	**0.0000**	**6,920.8610**	**6,920.8610**	**2.2384**		**6,976.8197**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0987	0.0666	0.7362	2.1500e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		214.0730	214.0730	6.1400e-003		214.2265
Total	**0.0987**	**0.0666**	**0.7362**	**2.1500e-003**	**0.2236**	**1.7000e-003**	**0.2253**	**0.0593**	**1.5600e-003**	**0.0609**		**214.0730**	**214.0730**	**6.1400e-003**		**214.2265**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3583	36.6146	18.6077	0.0430		1.6350	1.6350		1.5268	1.5268		4,108.1936	4,108.1936	1.1258		4,136.3391
Total	**3.3583**	**36.6146**	**18.6077**	**0.0430**		**1.6350**	**1.6350**		**1.5268**	**1.5268**		**4,108.1936**	**4,108.1936**	**1.1258**		**4,136.3391**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9701	29.5611	7.8561	0.0705	1.8049	0.1488	1.9537	0.5196	0.1423	0.6619		7,515.6611	7,515.6611	0.5219		7,528.7079
Worker	3.5233	2.3777	26.2814	0.0767	7.9808	0.0605	8.0414	2.1166	0.0558	2.1723		7,642.4058	7,642.4058	0.2192		7,647.8852
Total	**4.4934**	**31.9387**	**34.1376**	**0.1472**	**9.7857**	**0.2093**	**9.9950**	**2.6362**	**0.1981**	**2.8343**		**15,158.0669**	**15,158.0669**	**0.7411**		**15,176.5931**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3583	36.6146	18.6077	0.0430		1.6350	1.6350		1.5268	1.5268	0.0000	4,108.1936	4,108.1936	1.1258		4,136.3391
Total	**3.3583**	**36.6146**	**18.6077**	**0.0430**		**1.6350**	**1.6350**		**1.5268**	**1.5268**	**0.0000**	**4,108.1936**	**4,108.1936**	**1.1258**		**4,136.3391**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9701	29.5611	7.8561	0.0705	1.8049	0.1488	1.9537	0.5196	0.1423	0.6619		7,515.6611	7,515.6611	0.5219		7,528.7079
Worker	3.5233	2.3777	26.2814	0.0767	7.9808	0.0605	8.0414	2.1166	0.0558	2.1723		7,642.4058	7,642.4058	0.2192		7,647.8852
Total	**4.4934**	**31.9387**	**34.1376**	**0.1472**	**9.7857**	**0.2093**	**9.9950**	**2.6362**	**0.1981**	**2.8343**		**15,158.0669**	**15,158.0669**	**0.7411**		**15,176.5931**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.1324					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4890**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0740	0.0500	0.5521	1.6100e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		160.5547	160.5547	4.6000e-003		160.6699
Total	**0.0740**	**0.0500**	**0.5521**	**1.6100e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**160.5547**	**160.5547**	**4.6000e-003**		**160.6699**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.1324					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4890**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0740	0.0500	0.5521	1.6100e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		160.5547	160.5547	4.6000e-003		160.6699
Total	**0.0740**	**0.0500**	**0.5521**	**1.6100e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**160.5547**	**160.5547**	**4.6000e-003**		**160.6699**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	40.1103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3229	2.2451	2.4419	3.9600e-003		0.1479	0.1479		0.1479	0.1479		375.2641	375.2641	0.0291		375.9904
Total	**40.4332**	**2.2451**	**2.4419**	**3.9600e-003**		**0.1479**	**0.1479**		**0.1479**	**0.1479**		**375.2641**	**375.2641**	**0.0291**		**375.9904**

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7057	0.4762	5.2637	0.0154	1.5984	0.0121	1.6105	0.4239	0.0112	0.4351		1,530.6219	1,530.6219	0.0439		1,531.7193
Total	**0.7057**	**0.4762**	**5.2637**	**0.0154**	**1.5984**	**0.0121**	**1.6105**	**0.4239**	**0.0112**	**0.4351**		**1,530.6219**	**1,530.6219**	**0.0439**		**1,531.7193**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	40.1103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3229	2.2451	2.4419	3.9600e-003		0.1479	0.1479		0.1479	0.1479	0.0000	375.2641	375.2641	0.0291		375.9904
Total	**40.4332**	**2.2451**	**2.4419**	**3.9600e-003**		**0.1479**	**0.1479**		**0.1479**	**0.1479**	**0.0000**	**375.2641**	**375.2641**	**0.0291**		**375.9904**

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7057	0.4762	5.2637	0.0154	1.5984	0.0121	1.6105	0.4239	0.0112	0.4351		1,530.6219	1,530.6219	0.0439		1,531.7193
Total	**0.7057**	**0.4762**	**5.2637**	**0.0154**	**1.5984**	**0.0121**	**1.6105**	**0.4239**	**0.0112**	**0.4351**		**1,530.6219**	**1,530.6219**	**0.0439**		**1,531.7193**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Manufacturing	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant w/o Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant with Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
General Light Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Manufacturing	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Other Asphalt Surfaces	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Refrigerated Warehouse-No Rail	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Regional Shopping Center	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Unrefrigerated Warehouse-No Rail	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

The Park @ Live Oak (Construction - Unmitigated) - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Unmitigated	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.9561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.8025					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0151	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**		**0.3651**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.9561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.8025					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0151	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**		**0.3651**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Park @ Live Oak (Construction - Unmitigated)

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	907.30	1000sqft	43.62	907,300.00	0
Refrigerated Warehouse-No Rail	387.50	1000sqft	18.49	387,500.00	0
General Light Industry	54.60	1000sqft	2.62	54,600.00	0
Manufacturing	102.00	1000sqft	4.90	102,000.00	0
Fast Food Restaurant with Drive Thru	27.70	1000sqft	1.34	27,700.00	0
Fast Food Restaurant w/o Drive Thru	3.00	1000sqft	0.15	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	0.06	1,129.40	0
Regional Shopping Center	69.50	1000sqft	3.35	69,500.00	0
Other Asphalt Surfaces	3.79	Acre	3.79	165,092.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Lot Acreage is 78.32.

Construction Phase - Construction Schedule adjusted as per direction provided by the Client.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment -

Off-road Equipment - Hours are based on an 8-hour workday.

Grading -

Architectural Coating - Rule 1113.

Vehicle Trips - Construction Run Only.

Energy Use - Construction Run Only.

Water And Wastewater - Construction Run Only.

Solid Waste - Construction Run Only.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstructionPhase	NumDays	110.00	180.00
tblConstructionPhase	NumDays	1,550.00	230.00
tblConstructionPhase	NumDays	155.00	110.00
tblConstructionPhase	NumDays	110.00	75.00
tblConstructionPhase	NumDays	60.00	40.00
tblConstructionPhase	PhaseEndDate	6/25/2027	12/18/2020
tblConstructionPhase	PhaseEndDate	8/21/2026	12/11/2020

tblConstructionPhase	PhaseEndDate	9/11/2020	1/24/2020
tblConstructionPhase	PhaseEndDate	1/22/2027	12/18/2020
tblConstructionPhase	PhaseEndDate	2/7/2020	8/23/2019
tblConstructionPhase	PhaseStartDate	1/23/2027	4/11/2020
tblConstructionPhase	PhaseStartDate	9/12/2020	1/25/2020
tblConstructionPhase	PhaseStartDate	2/8/2020	8/24/2019
tblConstructionPhase	PhaseStartDate	8/22/2026	9/5/2020
tblConstructionPhase	PhaseStartDate	11/16/2019	7/1/2019
tblEnergyUse	LightingElect	6.26	0.00
tblEnergyUse	LightingElect	7.87	0.00
tblEnergyUse	LightingElect	7.87	0.00
tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	LightingElect	2.73	0.00
tblEnergyUse	LightingElect	6.26	0.00
tblEnergyUse	LightingElect	1.91	0.00
tblEnergyUse	NT24E	3.23	0.00
tblEnergyUse	NT24E	28.16	0.00
tblEnergyUse	NT24E	28.16	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24E	13.61	0.00
tblEnergyUse	NT24E	3.23	0.00
tblEnergyUse	NT24E	1.34	0.00
tblEnergyUse	NT24NG	0.49	0.00
tblEnergyUse	NT24NG	187.78	0.00
tblEnergyUse	NT24NG	187.78	0.00

tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	NT24NG	0.09	0.00
tblEnergyUse	NT24NG	0.49	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	4.01	0.00
tblEnergyUse	T24E	8.11	0.00
tblEnergyUse	T24E	8.11	0.00
tblEnergyUse	T24E	2.25	0.00
tblEnergyUse	T24E	2.25	0.00
tblEnergyUse	T24E	0.42	0.00
tblEnergyUse	T24E	4.01	0.00
tblEnergyUse	T24E	0.65	0.00
tblEnergyUse	T24NG	1.15	0.00
tblEnergyUse	T24NG	42.98	0.00
tblEnergyUse	T24NG	42.98	0.00
tblEnergyUse	T24NG	13.65	0.00
tblEnergyUse	T24NG	13.65	0.00
tblEnergyUse	T24NG	0.94	0.00
tblEnergyUse	T24NG	1.15	0.00
tblEnergyUse	T24NG	0.84	0.00
tblLandUse	LotAcreage	20.83	43.62
tblLandUse	LotAcreage	8.90	18.49
tblLandUse	LotAcreage	1.25	2.62
tblLandUse	LotAcreage	2.34	4.90
tblLandUse	LotAcreage	0.64	1.34
tblLandUse	LotAcreage	0.07	0.15

tblLandUse	LotAcreage	0.03	0.06
tblLandUse	LotAcreage	1.60	3.35
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	34.56	0.00
tblSolidWaste	SolidWasteGenerationRate	319.07	0.00
tblSolidWaste	SolidWasteGenerationRate	67.70	0.00
tblSolidWaste	SolidWasteGenerationRate	126.48	0.00
tblSolidWaste	SolidWasteGenerationRate	364.25	0.00
tblSolidWaste	SolidWasteGenerationRate	72.98	0.00
tblSolidWaste	SolidWasteGenerationRate	852.86	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	80.20	0.00
tblVehicleTrips	CC_TTP	79.50	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00

tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	0.80	0.00
tblVehicleTrips	CW_TTP	1.50	0.00
tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	37.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00

tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	14.00	0.00
tblVehicleTrips	PR_TP	51.00	0.00
tblVehicleTrips	PR_TP	29.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	204.47	0.00
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	ST_TR	722.03	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	1.49	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	166.88	0.00
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	0.62	0.00
tblVehicleTrips	SU_TR	1.68	0.00

tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	542.60	0.00
tblVehicleTrips	WD_TR	716.00	0.00
tblVehicleTrips	WD_TR	496.12	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	3.82	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	83,657.43	0.00
tblWater	IndoorWaterUseRate	910,601.14	0.00
tblWater	IndoorWaterUseRate	8,407,883.83	0.00
tblWater	IndoorWaterUseRate	12,626,250.00	0.00
tblWater	IndoorWaterUseRate	23,587,500.00	0.00
tblWater	IndoorWaterUseRate	89,609,375.00	0.00
tblWater	IndoorWaterUseRate	5,148,040.24	0.00
tblWater	IndoorWaterUseRate	209,813,125.00	0.00
tblWater	OutdoorWaterUseRate	51,273.91	0.00
tblWater	OutdoorWaterUseRate	58,123.48	0.00
tblWater	OutdoorWaterUseRate	536,673.44	0.00
tblWater	OutdoorWaterUseRate	3,155,250.47	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	5.9264	68.1717	34.8149	0.0738	20.3885	2.9702	23.3587	10.2131	2.7326	12.9457	0.0000	7,311.3612	7,311.3612	2.2459	0.0000	7,367.5085
2020	50.1519	85.1690	78.3970	0.2425	11.5518	2.7562	14.3080	3.7703	2.5757	6.0419	0.0000	24,409.9578	24,409.9578	2.6417	0.0000	24,476.0010
Maximum	**50.1519**	**85.1690**	**78.3970**	**0.2425**	**20.3885**	**2.9702**	**23.3587**	**10.2131**	**2.7326**	**12.9457**	**0.0000**	**24,409.9578**	**24,409.9578**	**2.6417**	**0.0000**	**24,476.0010**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	5.9264	68.1717	34.8149	0.0738	8.0742	2.9702	11.0445	4.0156	2.7326	6.7483	0.0000	7,311.3612	7,311.3612	2.2459	0.0000	7,367.5085
2020	50.1519	85.1690	78.3970	0.2425	11.5518	2.7562	14.3080	3.1045	2.5757	5.6802	0.0000	24,409.9578	24,409.9578	2.6417	0.0000	24,476.0010
Maximum	**50.1519**	**85.1690**	**78.3970**	**0.2425**	**11.5518**	**2.9702**	**14.3080**	**4.0156**	**2.7326**	**6.7483**	**0.0000**	**24,409.9578**	**24,409.9578**	**2.6417**	**0.0000**	**24,476.0010**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.55**	**0.00**	**32.69**	**49.08**	**0.00**	**34.54**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**	**0.0000**	**5.8000e-004**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**	**0.0000**	**0.3651**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**	**0.0000**	**5.8000e-004**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**	**0.0000**	**0.3651**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/23/2019	5	40	
2	Grading	Grading	8/24/2019	1/24/2020	5	110	
3	Building Construction	Building Construction	1/25/2020	12/11/2020	5	230	
4	Paving	Paving	9/5/2020	12/18/2020	5	75	
5	Architectural Coating	Architectural Coating	4/11/2020	12/18/2020	5	180	

Acres of Grading (Site Preparation Phase): 80

Acres of Grading (Grading Phase): 385

Acres of Paving: 3.79

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,329,094; Non-Residential Outdoor: 776,365; Striped Parking Area: 9,906 (Architectural Coating – sqft)

OffRoad Equipment

The Park @ Live Oak (Construction - Unmitigated) - South Coast AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Building Construction	Crawler Tractors	3	8.00	212	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	714.00	282.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	143.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					20.1873	0.0000	20.1873	10.1597	0.0000	10.1597			0.0000			0.0000
Off-Road	5.8382	68.1103	23.1420	0.0569		2.9687	2.9687		2.7312	2.7312		5,636.7406	5,636.7406	1.7834		5,681.3258
Total	**5.8382**	**68.1103**	**23.1420**	**0.0569**	**20.1873**	**2.9687**	**23.1559**	**10.1597**	**2.7312**	**12.8909**		**5,636.7406**	**5,636.7406**	**1.7834**		**5,681.3258**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0882	0.0613	0.8088	2.1400e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		212.5780	212.5780	6.6500e-003		212.7442
Total	**0.0882**	**0.0613**	**0.8088**	**2.1400e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**212.5780**	**212.5780**	**6.6500e-003**		**212.7442**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.8730	0.0000	7.8730	3.9623	0.0000	3.9623			0.0000			0.0000
Off-Road	5.8382	68.1103	23.1420	0.0569		2.9687	2.9687		2.7312	2.7312	0.0000	5,636.7406	5,636.7406	1.7834		5,681.3258
Total	**5.8382**	**68.1103**	**23.1420**	**0.0569**	**7.8730**	**2.9687**	**10.8417**	**3.9623**	**2.7312**	**6.6935**	**0.0000**	**5,636.7406**	**5,636.7406**	**1.7834**		**5,681.3258**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0882	0.0613	0.8088	2.1400e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		212.5780	212.5780	6.6500e-003		212.7442
Total	**0.0882**	**0.0613**	**0.8088**	**2.1400e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**212.5780**	**212.5780**	**6.6500e-003**		**212.7442**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7338	0.0000	9.7338	3.7110	0.0000	3.7110			0.0000			0.0000
Off-Road	5.4905	65.7890	33.9162	0.0714		2.6718	2.6718		2.4581	2.4581		7,075.1634	7,075.1634	2.2385		7,131.1260
Total	**5.4905**	**65.7890**	**33.9162**	**0.0714**	**9.7338**	**2.6718**	**12.4056**	**3.7110**	**2.4581**	**6.1691**		**7,075.1634**	**7,075.1634**	**2.2385**		**7,131.1260**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.0980**	**0.0682**	**0.8987**	**2.3700e-003**	**0.2236**	**1.7400e-003**	**0.2253**	**0.0593**	**1.6000e-003**	**0.0609**		**236.1978**	**236.1978**	**7.3900e-003**		**236.3825**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.7962	0.0000	3.7962	1.4473	0.0000	1.4473			0.0000			0.0000
Off-Road	5.4905	65.7890	33.9162	0.0714		2.6718	2.6718		2.4581	2.4581	0.0000	7,075.1634	7,075.1634	2.2385		7,131.1260
Total	**5.4905**	**65.7890**	**33.9162**	**0.0714**	**3.7962**	**2.6718**	**6.4680**	**1.4473**	**2.4581**	**3.9053**	**0.0000**	**7,075.1634**	**7,075.1634**	**2.2385**		**7,131.1260**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.0980**	**0.0682**	**0.8987**	**2.3700e-003**	**0.2236**	**1.7400e-003**	**0.2253**	**0.0593**	**1.6000e-003**	**0.0609**		**236.1978**	**236.1978**	**7.3900e-003**		**236.3825**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7338	0.0000	9.7338	3.7110	0.0000	3.7110			0.0000			0.0000
Off-Road	5.1856	60.8410	32.3849	0.0714		2.4674	2.4674		2.2700	2.2700		6,920.8611	6,920.8611	2.2384		6,976.8197
Total	**5.1856**	**60.8410**	**32.3849**	**0.0714**	**9.7338**	**2.4674**	**12.2012**	**3.7110**	**2.2700**	**5.9810**		**6,920.8611**	**6,920.8611**	**2.2384**		**6,976.8197**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0905	0.0608	0.8176	2.3000e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		228.8835	228.8835	6.5800e-003		229.0480
Total	**0.0905**	**0.0608**	**0.8176**	**2.3000e-003**	**0.2236**	**1.7000e-003**	**0.2253**	**0.0593**	**1.5600e-003**	**0.0609**		**228.8835**	**228.8835**	**6.5800e-003**		**229.0480**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.7962	0.0000	3.7962	1.4473	0.0000	1.4473			0.0000			0.0000
Off-Road	5.1856	60.8410	32.3849	0.0714		2.4674	2.4674		2.2700	2.2700	0.0000	6,920.8610	6,920.8610	2.2384		6,976.8197
Total	**5.1856**	**60.8410**	**32.3849**	**0.0714**	**3.7962**	**2.4674**	**6.2636**	**1.4473**	**2.2700**	**3.7173**	**0.0000**	**6,920.8610**	**6,920.8610**	**2.2384**		**6,976.8197**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0905	0.0608	0.8176	2.3000e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		228.8835	228.8835	6.5800e-003		229.0480
Total	**0.0905**	**0.0608**	**0.8176**	**2.3000e-003**	**0.2236**	**1.7000e-003**	**0.2253**	**0.0593**	**1.5600e-003**	**0.0609**		**228.8835**	**228.8835**	**6.5800e-003**		**229.0480**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3583	36.6146	18.6077	0.0430		1.6350	1.6350		1.5268	1.5268		4,108.1936	4,108.1936	1.1258		4,136.3391
Total	**3.3583**	**36.6146**	**18.6077**	**0.0430**		**1.6350**	**1.6350**		**1.5268**	**1.5268**		**4,108.1936**	**4,108.1936**	**1.1258**		**4,136.3391**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9261	29.5917	7.0464	0.0726	1.8049	0.1466	1.9515	0.5196	0.1402	0.6598		7,739.4464	7,739.4464	0.4859		7,751.5944
Worker	3.2304	2.1715	29.1896	0.0820	7.9808	0.0605	8.0414	2.1166	0.0558	2.1723		8,171.1406	8,171.1406	0.2349		8,177.0138
Total	**4.1566**	**31.7632**	**36.2360**	**0.1546**	**9.7857**	**0.2071**	**9.9928**	**2.6362**	**0.1960**	**2.8322**		**15,910.5871**	**15,910.5871**	**0.7209**		**15,928.6082**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3583	36.6146	18.6077	0.0430		1.6350	1.6350		1.5268	1.5268	0.0000	4,108.1936	4,108.1936	1.1258		4,136.3391
Total	**3.3583**	**36.6146**	**18.6077**	**0.0430**		**1.6350**	**1.6350**		**1.5268**	**1.5268**	**0.0000**	**4,108.1936**	**4,108.1936**	**1.1258**		**4,136.3391**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9261	29.5917	7.0464	0.0726	1.8049	0.1466	1.9515	0.5196	0.1402	0.6598		7,739.4464	7,739.4464	0.4859		7,751.5944
Worker	3.2304	2.1715	29.1896	0.0820	7.9808	0.0605	8.0414	2.1166	0.0558	2.1723		8,171.1406	8,171.1406	0.2349		8,177.0138
Total	**4.1566**	**31.7632**	**36.2360**	**0.1546**	**9.7857**	**0.2071**	**9.9928**	**2.6362**	**0.1960**	**2.8322**		**15,910.5871**	**15,910.5871**	**0.7209**		**15,928.6082**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.1324					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4890**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.0679**	**0.0456**	**0.6132**	**1.7200e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**171.6626**	**171.6626**	**4.9400e-003**		**171.7860**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.1324					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4890**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.0679**	**0.0456**	**0.6132**	**1.7200e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**171.6626**	**171.6626**	**4.9400e-003**		**171.7860**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	40.1103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3229	2.2451	2.4419	3.9600e-003		0.1479	0.1479		0.1479	0.1479		375.2641	375.2641	0.0291		375.9904
Total	**40.4332**	**2.2451**	**2.4419**	**3.9600e-003**		**0.1479**	**0.1479**		**0.1479**	**0.1479**		**375.2641**	**375.2641**	**0.0291**		**375.9904**

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6470	0.4349	5.8461	0.0164	1.5984	0.0121	1.6105	0.4239	0.0112	0.4351		1,636.5170	1,636.5170	0.0471		1,637.6932
Total	**0.6470**	**0.4349**	**5.8461**	**0.0164**	**1.5984**	**0.0121**	**1.6105**	**0.4239**	**0.0112**	**0.4351**		**1,636.5170**	**1,636.5170**	**0.0471**		**1,637.6932**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	40.1103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3229	2.2451	2.4419	3.9600e-003		0.1479	0.1479		0.1479	0.1479	0.0000	375.2641	375.2641	0.0291		375.9904
Total	**40.4332**	**2.2451**	**2.4419**	**3.9600e-003**		**0.1479**	**0.1479**		**0.1479**	**0.1479**	**0.0000**	**375.2641**	**375.2641**	**0.0291**		**375.9904**

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6470	0.4349	5.8461	0.0164	1.5984	0.0121	1.6105	0.4239	0.0112	0.4351		1,636.5170	1,636.5170	0.0471		1,637.6932
Total	**0.6470**	**0.4349**	**5.8461**	**0.0164**	**1.5984**	**0.0121**	**1.6105**	**0.4239**	**0.0112**	**0.4351**		**1,636.5170**	**1,636.5170**	**0.0471**		**1,637.6932**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Manufacturing	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant w/o Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant with Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
General Light Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Manufacturing	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Other Asphalt Surfaces	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Refrigerated Warehouse-No Rail	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Regional Shopping Center	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Unrefrigerated Warehouse-No Rail	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Unmitigated	34.7737	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.9561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.8025					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0151	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**		**0.3651**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.9561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.8025					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0151	1.4800e-003	0.1606	1.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004		0.3422	0.3422	9.2000e-004		0.3651
Total	**34.7737**	**1.4800e-003**	**0.1606**	**1.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**		**0.3422**	**0.3422**	**9.2000e-004**		**0.3651**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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APPENDIX 3.3:

CALEEMOD OPERATIONS (INDUSTRIAL USE - PASSENGER CARS) EMISSIONS MODEL OUTPUTS

The Park @ Live Oak (Industrial Uses Operations - Passenger Cars)

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	54.60	1000sqft	2.62	54,600.00	0
Manufacturing	102.00	1000sqft	4.90	102,000.00	0
Refrigerated Warehouse-No Rail	387.50	1000sqft	18.49	387,500.00	0
Unrefrigerated Warehouse-No Rail	907.30	1000sqft	43.62	907,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Park @ Live Oak (Industrial Uses Operations - Passenger Cars) - South Coast AQMD Air District, Winter

Project Characteristics -

Land Use - Industrial Uses Operations Run Only.

Construction Phase - Industrial Uses Operations Run Only.

Off-road Equipment - Industrial Uses Operations Run Only.

Trips and VMT - Industrial Uses Operations Run Only.

Vehicle Trips - Industrial Uses Operations Run Only.

Operational Off-Road Equipment - Industrial Uses Operations Run Only.

Fleet Mix - Industrial Uses Operational Run Only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	1.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00

tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00

tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblLandUse	LotAcreage	1.25	2.62
tblLandUse	LotAcreage	2.34	4.90
tblLandUse	LotAcreage	8.90	18.49
tblLandUse	LotAcreage	20.83	43.62
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00

tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.32	3.90
tblVehicleTrips	ST_TR	1.49	3.13
tblVehicleTrips	ST_TR	1.68	1.44
tblVehicleTrips	ST_TR	1.68	3.82
tblVehicleTrips	SU_TR	0.68	3.90
tblVehicleTrips	SU_TR	0.62	3.13
tblVehicleTrips	SU_TR	1.68	1.44
tblVehicleTrips	SU_TR	1.68	3.82
tblVehicleTrips	WD_TR	6.97	3.90
tblVehicleTrips	WD_TR	3.82	3.13
tblVehicleTrips	WD_TR	1.68	1.44
tblVehicleTrips	WD_TR	1.68	3.82

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	5.8750	10.5145	126.6775	0.4756	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		47,459.9811	47,459.9811	1.0101		47,485.2326
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**39.1666**	**20.5299**	**131.6364**	**0.4979**	**57.4579**	**0.7488**	**58.2067**	**15.2314**	**0.6963**	**15.9278**		**50,292.1406**	**50,292.1406**	**1.5323**	**0.0238**	**50,337.5314**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	5.8750	10.5145	126.6775	0.4756	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		47,459.9811	47,459.9811	1.0101		47,485.2326
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**39.1666**	**20.5299**	**131.6364**	**0.4979**	**57.4579**	**0.7488**	**58.2067**	**15.2314**	**0.6963**	**15.9278**		**50,292.1406**	**50,292.1406**	**1.5323**	**0.0238**	**50,337.5314**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/1/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.8750	10.5145	126.6775	0.4756	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		47,459.9811	47,459.9811	1.0101		47,485.2326
Unmitigated	5.8750	10.5145	126.6775	0.4756	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		47,459.9811	47,459.9811	1.0101		47,485.2326

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	212.94	212.94	212.94	1,286,669	1,286,669
Manufacturing	319.26	319.26	319.26	1,929,097	1,929,097
Refrigerated Warehouse-No Rail	558.00	558.00	558.00	3,371,659	3,371,659
Unrefrigerated Warehouse-No Rail	3,465.89	3,465.89	3465.89	20,942,270	20,942,270
Total	4,556.09	4,556.09	4,556.09	27,529,694	27,529,694

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Manufacturing	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manufacturing	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Refrigerated Warehouse-No Rail	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
NaturalGas Unmitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2707.56	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5058.08	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1093.49	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2162.61	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2.70756	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5.05808	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1.09349	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2.16261	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Unmitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	5	4.00	365	200	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/ Backhoes	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**0.7349**	**8.9335**	**3.9021**	**0.0159**		**0.2930**	**0.2930**		**0.2696**	**0.2696**		**1,535.1662**	**1,535.1662**	**0.4965**		**1,547.5788**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Park @ Live Oak (Industrial Uses Operations - Passenger Cars)

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	54.60	1000sqft	2.62	54,600.00	0
Manufacturing	102.00	1000sqft	4.90	102,000.00	0
Refrigerated Warehouse-No Rail	387.50	1000sqft	18.49	387,500.00	0
Unrefrigerated Warehouse-No Rail	907.30	1000sqft	43.62	907,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Park @ Live Oak (Industrial Uses Operations - Passenger Cars) - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - Industrial Uses Operations Run Only.

Construction Phase - Industrial Uses Operations Run Only.

Off-road Equipment - Industrial Uses Operations Run Only.

Trips and VMT - Industrial Uses Operations Run Only.

Vehicle Trips - Industrial Uses Operations Run Only.

Operational Off-Road Equipment - Industrial Uses Operations Run Only.

Fleet Mix - Industrial Uses Operational Run Only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	1.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00

tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00

tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblLandUse	LotAcreage	1.25	2.62
tblLandUse	LotAcreage	2.34	4.90
tblLandUse	LotAcreage	8.90	18.49
tblLandUse	LotAcreage	20.83	43.62
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00

tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.32	3.90
tblVehicleTrips	ST_TR	1.49	3.13
tblVehicleTrips	ST_TR	1.68	1.44
tblVehicleTrips	ST_TR	1.68	3.82
tblVehicleTrips	SU_TR	0.68	3.90
tblVehicleTrips	SU_TR	0.62	3.13
tblVehicleTrips	SU_TR	1.68	1.44
tblVehicleTrips	SU_TR	1.68	3.82
tblVehicleTrips	WD_TR	6.97	3.90
tblVehicleTrips	WD_TR	3.82	3.13
tblVehicleTrips	WD_TR	1.68	1.44
tblVehicleTrips	WD_TR	1.68	3.82

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	6.3981	9.6547	142.6656	0.5095	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		50,837.9032	50,837.9032	1.0893		50,865.1358
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**39.6897**	**19.6701**	**147.6245**	**0.5319**	**57.4579**	**0.7488**	**58.2067**	**15.2314**	**0.6963**	**15.9278**		**53,670.0627**	**53,670.0627**	**1.6115**	**0.0238**	**53,717.4347**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	6.3981	9.6547	142.6656	0.5095	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		50,837.9032	50,837.9032	1.0893		50,865.1358
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**39.6897**	**19.6701**	**147.6245**	**0.5319**	**57.4579**	**0.7488**	**58.2067**	**15.2314**	**0.6963**	**15.9278**		**53,670.0627**	**53,670.0627**	**1.6115**	**0.0238**	**53,717.4347**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/1/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.3981	9.6547	142.6656	0.5095	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		50,837.9032	50,837.9032	1.0893		50,865.1358
Unmitigated	6.3981	9.6547	142.6656	0.5095	57.4579	0.3732	57.8310	15.2314	0.3441	15.5756		50,837.9032	50,837.9032	1.0893		50,865.1358

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	212.94	212.94	212.94	1,286,669	1,286,669
Manufacturing	319.26	319.26	319.26	1,929,097	1,929,097
Refrigerated Warehouse-No Rail	558.00	558.00	558.00	3,371,659	3,371,659
Unrefrigerated Warehouse-No Rail	3,465.89	3,465.89	3465.89	20,942,270	20,942,270
Total	4,556.09	4,556.09	4,556.09	27,529,694	27,529,694

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Manufacturing	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manufacturing	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Refrigerated Warehouse-No Rail	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
NaturalGas Unmitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2707.56	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5058.08	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1093.49	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2162.61	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2.70756	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5.05808	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1.09349	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2.16261	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Unmitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	5	4.00	365	200	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/ Backhoes	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**0.7349**	**8.9335**	**3.9021**	**0.0159**		**0.2930**	**0.2930**		**0.2696**	**0.2696**		**1,535.1662**	**1,535.1662**	**0.4965**		**1,547.5788**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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APPENDIX 3.4:

CALEEMOD OPERATIONS (INDUSTRIAL USE - TRUCKS) EMISSIONS MODEL OUTPUTS

The Park @ Live Oak (Industrial Uses Operations - Trucks)

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	54.60	1000sqft	2.62	54,600.00	0
Manufacturing	102.00	1000sqft	4.90	102,000.00	0
Refrigerated Warehouse-No Rail	387.50	1000sqft	18.49	387,500.00	0
Unrefrigerated Warehouse-No Rail	907.30	1000sqft	43.62	907,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Park @ Live Oak (Industrial Uses Operations - Trucks) - South Coast AQMD Air District, Winter

Project Characteristics -

Land Use - Industrial Uses Operations Run Only.

Construction Phase - Industrial Uses Operations Run Only.

Off-road Equipment - Industrial Uses Operations Run Only.

Trips and VMT - Operations Run Only.

Vehicle Trips - Industrial Uses Operations Run Only.

Operational Off-Road Equipment - Industrial Uses Operations Only.

Fleet Mix - Industrial Uses Operations Run Only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	1.00
tblFleetMix	HHD	0.03	0.44
tblFleetMix	HHD	0.03	0.60
tblFleetMix	HHD	0.03	0.54
tblFleetMix	HHD	0.03	0.68
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00

tblFleetMix	LHD1	0.02	0.37
tblFleetMix	LHD1	0.02	0.17
tblFleetMix	LHD1	0.02	0.35
tblFleetMix	LHD1	0.02	0.05
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.18
tblFleetMix	MHD	0.02	0.23
tblFleetMix	MHD	0.02	0.11
tblFleetMix	MHD	0.02	0.27
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00

tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblLandUse	LotAcreage	1.25	2.62
tblLandUse	LotAcreage	2.34	4.90
tblLandUse	LotAcreage	8.90	18.49
tblLandUse	LotAcreage	20.83	43.62
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TL	16.60	50.00

tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.32	1.06
tblVehicleTrips	ST_TR	1.49	0.80
tblVehicleTrips	ST_TR	1.68	0.68
tblVehicleTrips	ST_TR	1.68	0.44
tblVehicleTrips	SU_TR	0.68	1.06
tblVehicleTrips	SU_TR	0.62	0.80
tblVehicleTrips	SU_TR	1.68	0.68
tblVehicleTrips	SU_TR	1.68	0.44
tblVehicleTrips	WD_TR	6.97	1.06

tblVehicleTrips	WD_TR	3.82	0.80
tblVehicleTrips	WD_TR	1.68	0.68
tblVehicleTrips	WD_TR	1.68	0.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	11.4148	328.6997	90.1448	1.1594	35.6918	2.0572	37.7490	10.0326	1.9677	12.0003		123,970.2843	123,970.2843	6.0395		124,121.2726
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**44.7065**	**338.7151**	**95.1037**	**1.1818**	**35.6918**	**2.4329**	**38.1246**	**10.0326**	**2.3199**	**12.3525**		**126,802.4437**	**126,802.4437**	**6.5617**	**0.0238**	**126,973.5715**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	11.4148	328.6997	90.1448	1.1594	35.6918	2.0572	37.7490	10.0326	1.9677	12.0003		123,970.2843	123,970.2843	6.0395		124,121.2726
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**44.7065**	**338.7151**	**95.1037**	**1.1818**	**35.6918**	**2.4329**	**38.1246**	**10.0326**	**2.3199**	**12.3525**		**126,802.4437**	**126,802.4437**	**6.5617**	**0.0238**	**126,973.5715**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	6/30/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.4148	328.6997	90.1448	1.1594	35.6918	2.0572	37.7490	10.0326	1.9677	12.0003		123,970.2843	123,970.2843	6.0395		124,121.2726
Unmitigated	11.4148	328.6997	90.1448	1.1594	35.6918	2.0572	37.7490	10.0326	1.9677	12.0003		123,970.2843	123,970.2843	6.0395		124,121.2726

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	57.88	57.88	57.88	1,053,343	1,053,343
Manufacturing	81.60	81.60	81.60	1,485,120	1,485,120
Refrigerated Warehouse-No Rail	263.50	263.50	263.50	4,795,700	4,795,700
Unrefrigerated Warehouse-No Rail	399.21	399.21	399.21	7,265,658	7,265,658
Total	802.19	802.19	802.19	14,599,822	14,599,822

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0
Manufacturing	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0
Refrigerated Warehouse-No	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.000000	0.000000	0.000000	0.000000	0.374200	0.000000	0.181900	0.443900	0.000000	0.000000	0.000000	0.000000	0.000000
Manufacturing	0.000000	0.000000	0.000000	0.000000	0.169300	0.000000	0.226700	0.604000	0.000000	0.000000	0.000000	0.000000	0.000000
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.346600	0.000000	0.109800	0.543600	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.047200	0.000000	0.268700	0.684100	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
NaturalGas Unmitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2707.56	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5058.08	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1093.49	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2162.61	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2.70756	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5.05808	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1.09349	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2.16261	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Unmitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	5	4.00	365	200	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/ Backhoes	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**0.7349**	**8.9335**	**3.9021**	**0.0159**		**0.2930**	**0.2930**		**0.2696**	**0.2696**		**1,535.1662**	**1,535.1662**	**0.4965**		**1,547.5788**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Park @ Live Oak (Industrial Uses Operations - Trucks)

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	54.60	1000sqft	2.62	54,600.00	0
Manufacturing	102.00	1000sqft	4.90	102,000.00	0
Refrigerated Warehouse-No Rail	387.50	1000sqft	18.49	387,500.00	0
Unrefrigerated Warehouse-No Rail	907.30	1000sqft	43.62	907,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Park @ Live Oak (Industrial Uses Operations - Trucks) - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - Industrial Uses Operations Run Only.

Construction Phase - Industrial Uses Operations Run Only.

Off-road Equipment - Industrial Uses Operations Run Only.

Trips and VMT - Operations Run Only.

Vehicle Trips - Industrial Uses Operations Run Only.

Operational Off-Road Equipment - Industrial Uses Operations Only.

Fleet Mix - Industrial Uses Operations Run Only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	1.00
tblFleetMix	HHD	0.03	0.44
tblFleetMix	HHD	0.03	0.60
tblFleetMix	HHD	0.03	0.54
tblFleetMix	HHD	0.03	0.68
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LDT2	0.20	0.00

tblFleetMix	LHD1	0.02	0.37
tblFleetMix	LHD1	0.02	0.17
tblFleetMix	LHD1	0.02	0.35
tblFleetMix	LHD1	0.02	0.05
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.18
tblFleetMix	MHD	0.02	0.23
tblFleetMix	MHD	0.02	0.11
tblFleetMix	MHD	0.02	0.27
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	OBUS	2.0370e-003	0.00

tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblLandUse	LotAcreage	1.25	2.62
tblLandUse	LotAcreage	2.34	4.90
tblLandUse	LotAcreage	8.90	18.49
tblLandUse	LotAcreage	20.83	43.62
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TL	16.60	50.00

tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.32	1.06
tblVehicleTrips	ST_TR	1.49	0.80
tblVehicleTrips	ST_TR	1.68	0.68
tblVehicleTrips	ST_TR	1.68	0.44
tblVehicleTrips	SU_TR	0.68	1.06
tblVehicleTrips	SU_TR	0.62	0.80
tblVehicleTrips	SU_TR	1.68	0.68
tblVehicleTrips	SU_TR	1.68	0.44
tblVehicleTrips	WD_TR	6.97	1.06

tblVehicleTrips	WD_TR	3.82	0.80
tblVehicleTrips	WD_TR	1.68	0.68
tblVehicleTrips	WD_TR	1.68	0.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	11.3044	319.2116	88.4436	1.1665	35.6918	2.0503	37.7420	10.0326	1.9610	11.9936		124,735.7161	124,735.7161	5.9271		124,883.8928
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**44.5960**	**329.2270**	**93.4025**	**1.1889**	**35.6918**	**2.4259**	**38.1177**	**10.0326**	**2.3132**	**12.3458**		**127,567.8755**	**127,567.8755**	**6.4493**	**0.0238**	**127,736.1916**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Energy	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
Mobile	11.3044	319.2116	88.4436	1.1665	35.6918	2.0503	37.7420	10.0326	1.9610	11.9936		124,735.7161	124,735.7161	5.9271		124,883.8928
Offroad	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**44.5960**	**329.2270**	**93.4025**	**1.1889**	**35.6918**	**2.4259**	**38.1177**	**10.0326**	**2.3132**	**12.3458**		**127,567.8755**	**127,567.8755**	**6.4493**	**0.0238**	**127,736.1916**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	6/30/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.3044	319.2116	88.4436	1.1665	35.6918	2.0503	37.7420	10.0326	1.9610	11.9936		124,735.7161	124,735.7161	5.9271		124,883.8928
Unmitigated	11.3044	319.2116	88.4436	1.1665	35.6918	2.0503	37.7420	10.0326	1.9610	11.9936		124,735.7161	124,735.7161	5.9271		124,883.8928

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	57.88	57.88	57.88	1,053,343	1,053,343
Manufacturing	81.60	81.60	81.60	1,485,120	1,485,120
Refrigerated Warehouse-No Rail	263.50	263.50	263.50	4,795,700	4,795,700
Unrefrigerated Warehouse-No Rail	399.21	399.21	399.21	7,265,658	7,265,658
Total	802.19	802.19	802.19	14,599,822	14,599,822

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0
Manufacturing	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0
Refrigerated Warehouse-No	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.000000	0.000000	0.000000	0.000000	0.374200	0.000000	0.181900	0.443900	0.000000	0.000000	0.000000	0.000000	0.000000
Manufacturing	0.000000	0.000000	0.000000	0.000000	0.169300	0.000000	0.226700	0.604000	0.000000	0.000000	0.000000	0.000000	0.000000
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.346600	0.000000	0.109800	0.543600	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.047200	0.000000	0.268700	0.684100	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811
NaturalGas Unmitigated	0.1189	1.0806	0.9077	6.4800e-003		0.0821	0.0821		0.0821	0.0821		1,296.6756	1,296.6756	0.0249	0.0238	1,304.3811

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2707.56	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5058.08	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1093.49	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2162.61	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2.70756	0.0292	0.2655	0.2230	1.5900e-003		0.0202	0.0202		0.0202	0.0202		318.5367	318.5367	6.1100e-003	5.8400e-003	320.4296
Manufacturing	5.05808	0.0546	0.4959	0.4166	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0685	595.0685	0.0114	0.0109	598.6047
Refrigerated Warehouse-No Rail	1.09349	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003		128.6463	128.6463	2.4700e-003	2.3600e-003	129.4107
Unrefrigerated Warehouse-No Rail	2.16261	0.0233	0.2120	0.1781	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.4242	254.4242	4.8800e-003	4.6600e-003	255.9361
Total		**0.1189**	**1.0806**	**0.9077**	**6.4800e-003**		**0.0821**	**0.0821**		**0.0821**	**0.0821**		**1,296.6756**	**1,296.6756**	**0.0249**	**0.0238**	**1,304.3811**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Unmitigated	32.4379	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6862					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.7377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0140	1.3800e-003	0.1491	1.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		0.3176	0.3176	8.5000e-004		0.3389
Total	**32.4379**	**1.3800e-003**	**0.1491**	**1.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**		**0.3176**	**0.3176**	**8.5000e-004**		**0.3389**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	5	4.00	365	200	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/ Backhoes	0.7349	8.9335	3.9021	0.0159		0.2930	0.2930		0.2696	0.2696		1,535.1662	1,535.1662	0.4965		1,547.5788
Total	**0.7349**	**8.9335**	**3.9021**	**0.0159**		**0.2930**	**0.2930**		**0.2696**	**0.2696**		**1,535.1662**	**1,535.1662**	**0.4965**		**1,547.5788**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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APPENDIX 3.5:

CALEEMOD OPERATIONS (COMMERCIAL) EMISSIONS MODEL OUTPUTS

The Park @ Live Oak (Commercial Uses Operations)

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	27.70	1000sqft	1.34	27,700.00	0
Fast Food Restaurant w/o Drive Thru	3.00	1000sqft	0.15	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	0.06	1,129.40	0
Regional Shopping Center	69.50	1000sqft	3.35	69,500.00	0
Other Asphalt Surfaces	3.79	Acre	3.79	165,092.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Park @ Live Oak (Commercial Uses Operations) - South Coast AQMD Air District, Winter

Project Characteristics -

Land Use - Commercial Uses Operations Run Only.

Construction Phase - Commercial Uses Operations Run Only.

Off-road Equipment - Commercial Uses Operations Run Only.

Trips and VMT - Commercial Uses Operations Run Only.

Vehicle Trips - Commercial Uses Operations Only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	8/9/2019	7/1/2019
tblConstructionPhase	PhaseStartDate	7/27/2019	7/1/2019
tblLandUse	LotAcreage	0.64	1.34
tblLandUse	LotAcreage	0.07	0.15
tblLandUse	LotAcreage	0.03	0.06
tblLandUse	LotAcreage	1.60	3.35
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblVehicleTrips	DV_TP	37.00	5.00
tblVehicleTrips	PB_TP	65.00	56.00
tblVehicleTrips	PB_TP	12.00	89.00
tblVehicleTrips	PB_TP	11.00	34.00
tblVehicleTrips	PR_TP	14.00	23.00
tblVehicleTrips	PR_TP	51.00	6.00
tblVehicleTrips	PR_TP	54.00	31.00
tblVehicleTrips	ST_TR	204.47	198.16
tblVehicleTrips	ST_TR	696.00	820.33
tblVehicleTrips	ST_TR	722.03	385.42

tblVehicleTrips	ST_TR	49.97	63.99
tblVehicleTrips	SU_TR	166.88	198.16
tblVehicleTrips	SU_TR	500.00	820.33
tblVehicleTrips	SU_TR	542.72	384.42
tblVehicleTrips	SU_TR	25.24	63.99
tblVehicleTrips	WD_TR	542.60	198.16
tblVehicleTrips	WD_TR	716.00	820.33
tblVehicleTrips	WD_TR	496.12	385.42
tblVehicleTrips	WD_TR	42.70	63.99

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Energy	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532
Mobile	25.6919	113.3973	210.1857	0.5645	41.1497	0.6115	41.7612	11.0109	0.5733	11.5842		57,507.5630	57,507.5630	3.9419		57,606.1105
Total	**28.2405**	**115.3314**	**211.8218**	**0.5761**	**41.1497**	**0.7585**	**41.9082**	**11.0109**	**0.7203**	**11.7312**		**59,828.3495**	**59,828.3495**	**3.9865**	**0.0426**	**59,940.6898**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Energy	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532
Mobile	25.6919	113.3973	210.1857	0.5645	41.1497	0.6115	41.7612	11.0109	0.5733	11.5842		57,507.5630	57,507.5630	3.9419		57,606.1105
Total	**28.2405**	**115.3314**	**211.8218**	**0.5761**	**41.1497**	**0.7585**	**41.9082**	**11.0109**	**0.7203**	**11.7312**		**59,828.3495**	**59,828.3495**	**3.9865**	**0.0426**	**59,940.6898**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/1/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.79

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	25.6919	113.3973	210.1857	0.5645	41.1497	0.6115	41.7612	11.0109	0.5733	11.5842		57,507.5630	57,507.5630	3.9419		57,606.1105
Unmitigated	25.6919	113.3973	210.1857	0.5645	41.1497	0.6115	41.7612	11.0109	0.5733	11.5842		57,507.5630	57,507.5630	3.9419		57,606.1105

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,585.28	1,585.28	1585.28	1,365,869	1,365,869
Fast Food Restaurant w/o Drive Thru	2,460.99	2,460.99	2460.99	614,747	614,747
Fast Food Restaurant with Drive Thru	10,676.13	10,676.13	10648.43	11,231,266	11,231,266
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	4,447.03	4,447.03	4447.03	6,136,577	6,136,577
Total	19,169.43	19,169.43	19,141.73	19,348,460	19,348,460

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	16.60	8.40	6.90	0.80	80.20	19.00	23	21	56
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	6	5	89
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	31	35	34

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant w/o Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant with Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Other Asphalt Surfaces	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Regional Shopping Center	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

The Park @ Live Oak (Commercial Uses Operations) - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532
NaturalGas Unmitigated	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	5.07456	5.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.5970	0.5970	1.0000e-005	1.0000e-005	0.6006
Fast Food Restaurant w/o Drive Thru	1896.66	0.0205	0.1860	0.1562	1.1200e-003		0.0141	0.0141		0.0141	0.0141		223.1362	223.1362	4.2800e-003	4.0900e-003	224.4622
Fast Food Restaurant with Drive Thru	17512.5	0.1889	1.7169	1.4422	0.0103		0.1305	0.1305		0.1305	0.1305		2,060.2907	2,060.2907	0.0395	0.0378	2,072.5340
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	312.274	3.3700e-003	0.0306	0.0257	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003		36.7381	36.7381	7.0000e-004	6.7000e-004	36.9564
Total		**0.2127**	**1.9340**	**1.6245**	**0.0116**		**0.1470**	**0.1470**		**0.1470**	**0.1470**		**2,320.7620**	**2,320.7620**	**0.0445**	**0.0425**	**2,334.5532**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.00507456	5.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.5970	0.5970	1.0000e-005	1.0000e-005	0.6006
Fast Food Restaurant w/o Drive Thru	1.89666	0.0205	0.1860	0.1562	1.1200e-003		0.0141	0.0141		0.0141	0.0141		223.1362	223.1362	4.2800e-003	4.0900e-003	224.4622
Fast Food Restaurant with Drive Thru	17.5125	0.1889	1.7169	1.4422	0.0103		0.1305	0.1305		0.1305	0.1305		2,060.2907	2,060.2907	0.0395	0.0378	2,072.5340
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.312274	3.3700e-003	0.0306	0.0257	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003		36.7381	36.7381	7.0000e-004	6.7000e-004	36.9564
Total		**0.2127**	**1.9340**	**1.6245**	**0.0116**		**0.1470**	**0.1470**		**0.1470**	**0.1470**		**2,320.7620**	**2,320.7620**	**0.0445**	**0.0425**	**2,334.5532**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Unmitigated	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0800e-003	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Total	**2.3358**	**1.1000e-004**	**0.0115**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0245**	**0.0245**	**7.0000e-005**		**0.0262**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0800e-003	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Total	**2.3358**	**1.1000e-004**	**0.0115**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0245**	**0.0245**	**7.0000e-005**		**0.0262**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Park @ Live Oak (Commercial Uses Operations)

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	27.70	1000sqft	1.34	27,700.00	0
Fast Food Restaurant w/o Drive Thru	3.00	1000sqft	0.15	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	0.06	1,129.40	0
Regional Shopping Center	69.50	1000sqft	3.35	69,500.00	0
Other Asphalt Surfaces	3.79	Acre	3.79	165,092.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Park @ Live Oak (Commercial Uses Operations) - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - Commercial Uses Operations Run Only.

Construction Phase - Commercial Uses Operations Run Only.

Off-road Equipment - Commercial Uses Operations Run Only.

Trips and VMT - Commercial Uses Operations Run Only.

Vehicle Trips - Commercial Uses Operations Only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	8/9/2019	7/1/2019
tblConstructionPhase	PhaseStartDate	7/27/2019	7/1/2019
tblLandUse	LotAcreage	0.64	1.34
tblLandUse	LotAcreage	0.07	0.15
tblLandUse	LotAcreage	0.03	0.06
tblLandUse	LotAcreage	1.60	3.35
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblVehicleTrips	DV_TP	37.00	5.00
tblVehicleTrips	PB_TP	65.00	56.00
tblVehicleTrips	PB_TP	12.00	89.00
tblVehicleTrips	PB_TP	11.00	34.00
tblVehicleTrips	PR_TP	14.00	23.00
tblVehicleTrips	PR_TP	51.00	6.00
tblVehicleTrips	PR_TP	54.00	31.00
tblVehicleTrips	ST_TR	204.47	198.16
tblVehicleTrips	ST_TR	696.00	820.33
tblVehicleTrips	ST_TR	722.03	385.42

tblVehicleTrips	ST_TR	49.97	63.99
tblVehicleTrips	SU_TR	166.88	198.16
tblVehicleTrips	SU_TR	500.00	820.33
tblVehicleTrips	SU_TR	542.72	384.42
tblVehicleTrips	SU_TR	25.24	63.99
tblVehicleTrips	WD_TR	542.60	198.16
tblVehicleTrips	WD_TR	716.00	820.33
tblVehicleTrips	WD_TR	496.12	385.42
tblVehicleTrips	WD_TR	42.70	63.99

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Energy	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532
Mobile	27.1560	113.4547	209.1530	0.5993	41.1497	0.6021	41.7518	11.0109	0.5643	11.5752		61,066.5286	61,066.5286	3.8010		61,161.5525
Total	**29.7045**	**115.3888**	**210.7890**	**0.6109**	**41.1497**	**0.7491**	**41.8988**	**11.0109**	**0.7113**	**11.7222**		**63,387.3151**	**63,387.3151**	**3.8455**	**0.0426**	**63,496.1318**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Energy	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532
Mobile	27.1560	113.4547	209.1530	0.5993	41.1497	0.6021	41.7518	11.0109	0.5643	11.5752		61,066.5286	61,066.5286	3.8010		61,161.5525
Total	**29.7045**	**115.3888**	**210.7890**	**0.6109**	**41.1497**	**0.7491**	**41.8988**	**11.0109**	**0.7113**	**11.7222**		**63,387.3151**	**63,387.3151**	**3.8455**	**0.0426**	**63,496.1318**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/1/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.79

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.1560	113.4547	209.1530	0.5993	41.1497	0.6021	41.7518	11.0109	0.5643	11.5752		61,066.5286	61,066.5286	3.8010		61,161.5525
Unmitigated	27.1560	113.4547	209.1530	0.5993	41.1497	0.6021	41.7518	11.0109	0.5643	11.5752		61,066.5286	61,066.5286	3.8010		61,161.5525

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,585.28	1,585.28	1585.28	1,365,869	1,365,869
Fast Food Restaurant w/o Drive Thru	2,460.99	2,460.99	2460.99	614,747	614,747
Fast Food Restaurant with Drive Thru	10,676.13	10,676.13	10648.43	11,231,266	11,231,266
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	4,447.03	4,447.03	4447.03	6,136,577	6,136,577
Total	19,169.43	19,169.43	19,141.73	19,348,460	19,348,460

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	16.60	8.40	6.90	0.80	80.20	19.00	23	21	56
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	6	5	89
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	31	35	34

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant w/o Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Fast Food Restaurant with Drive Thru	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Other Asphalt Surfaces	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Regional Shopping Center	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

The Park @ Live Oak (Commercial Uses Operations) - South Coast AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532
NaturalGas Unmitigated	0.2127	1.9340	1.6245	0.0116		0.1470	0.1470		0.1470	0.1470		2,320.7620	2,320.7620	0.0445	0.0426	2,334.5532

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	5.07456	5.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.5970	0.5970	1.0000e-005	1.0000e-005	0.6006
Fast Food Restaurant w/o Drive Thru	1896.66	0.0205	0.1860	0.1562	1.1200e-003		0.0141	0.0141		0.0141	0.0141		223.1362	223.1362	4.2800e-003	4.0900e-003	224.4622
Fast Food Restaurant with Drive Thru	17512.5	0.1889	1.7169	1.4422	0.0103		0.1305	0.1305		0.1305	0.1305		2,060.2907	2,060.2907	0.0395	0.0378	2,072.5340
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	312.274	3.3700e-003	0.0306	0.0257	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003		36.7381	36.7381	7.0000e-004	6.7000e-004	36.9564
Total		**0.2127**	**1.9340**	**1.6245**	**0.0116**		**0.1470**	**0.1470**		**0.1470**	**0.1470**		**2,320.7620**	**2,320.7620**	**0.0445**	**0.0425**	**2,334.5532**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.00507456	5.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.5970	0.5970	1.0000e-005	1.0000e-005	0.6006
Fast Food Restaurant w/o Drive Thru	1.89666	0.0205	0.1860	0.1562	1.1200e-003		0.0141	0.0141		0.0141	0.0141		223.1362	223.1362	4.2800e-003	4.0900e-003	224.4622
Fast Food Restaurant with Drive Thru	17.5125	0.1889	1.7169	1.4422	0.0103		0.1305	0.1305		0.1305	0.1305		2,060.2907	2,060.2907	0.0395	0.0378	2,072.5340
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.312274	3.3700e-003	0.0306	0.0257	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003		36.7381	36.7381	7.0000e-004	6.7000e-004	36.9564
Total		**0.2127**	**1.9340**	**1.6245**	**0.0116**		**0.1470**	**0.1470**		**0.1470**	**0.1470**		**2,320.7620**	**2,320.7620**	**0.0445**	**0.0425**	**2,334.5532**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Unmitigated	2.3358	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0800e-003	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Total	**2.3358**	**1.1000e-004**	**0.0115**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0245**	**0.0245**	**7.0000e-005**		**0.0262**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0800e-003	1.1000e-004	0.0115	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0245	0.0245	7.0000e-005		0.0262
Total	**2.3358**	**1.1000e-004**	**0.0115**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0245**	**0.0245**	**7.0000e-005**		**0.0262**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation